

CDF (Constructional Data Form) for Electrical Products

Applicant	Tongwei Solar (Hefei) Co., Ltd. No.888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R. China
Manufacturer 1	Tongwei Solar (Hefei) Co., Ltd. No.888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R. China
Manufacturer 2	Hefei GCL System Integration New Energy Technology Co., Ltd. Southeast Corner of Intersection of Sidingshan Road and Ruquan Road, Hefei Circular Economy Demonstration Park, Feidong County, Hefei City, Anhui Province, P.R. China
Manufacturer 3	Jiangsu Yueyang Photovoltaic Technology Co., Ltd. 777 Tangqiao Road, High-tech Economic Zone, Jianhu County, Yancheng City, 224700 Jiangsu Province, P.R. China.
Manufacturer 4	Zibo JinenU Solar Technology Co., LTD. 3005, Silk Road, Zhoucun District, Zibo, Shandong China
Manufacturer 5	Funing GCL System Integration Technology Co., Ltd. No.888 (A) Hong Kong Road, Funing Economic Development Zone, Yancheng City, Jiangsu Province, P.R. China
Manufacturer 6	Tongwei Solar (Yancheng) Co., Ltd. No. 88, Jiuhuashan Road, Economic Development Zone, Yancheng City, Jiangsu Province, China
Manufacturer 7	Tongwei Solar (Sichuan) Co., Ltd. No.888, Jilin East Road, Huai Kou Street, Jintang County, Chengdu City, Sichuan Province
Manufacturer 8	Tongwei Solar (Nantong) Co., LTD No. 8, Bonded 10 Road, Economic Development Zone, Nantong City, Jiangsu Province, P. R. China
Manufacturer 9	Tongwei Solar (Chengdu) Co., LTD No. 888, Linjiaci Road, Huangjia Subdistrict, Shuangliu District, Chengdu City, Sichuan Province, China
Product	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
Standard(s)	IEC / EN 61215-1:2016; IEC / EN 61215-1-1:2016; IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018; IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018; IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.

Confirmation of the applicant
Hefei, 12/13/2023 (Place and date)




(Applicant's legally authorized signature and stamp)

Confirmation of TÜV NORD CERT
Shanghai, 12/13/2023 (Place and date)

Carra Chen

(Signature of authorized TÜV NORD CERT engineer)

Trade mark..... :	
Module type(s)	<p>PV Modules with Segmented 6" Mono-crystalline Silicon Solar Cells: 408 cells: THxxxCM5-72S (xxx = 350-390, in increment of 5) 340 cells: THxxxCM5-60S (xxx = 290-325, in increment of 5)</p> <p>PV Modules with Segmented 6" PERC Mono-crystalline Silicon Solar Cells: 432 cells: THxxxPM5-78S (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SA (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SAF (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SAS (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78S (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SA (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SAF (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SAS (xxx = 445-480, in increment of 5) 408 cells: THxxxPM5-72S (xxx = 395-455, in increment of 5) 408 cells: THxxxPM5-72SF (xxx = 395-435, in increment of 5) 408 cells: THxxxPM5-72SS (xxx = 395-435, in increment of 5) 408 cells: THxxxPM5-72SA (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SAF (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SAS (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SB (xxx = 460-500, in increment of 5) 408 cells: THxxxPM5-72SBF (xxx = 460-500, in increment of 5) 408 cells: THxxxPM5-72SBS (xxx = 460-500, in increment of 5) 408 cells: THxxxPMB5-72S (xxx = 395-455, in increment of 5) 408 cells: THxxxPMB5-72SF (xxx = 395-435, in increment of 5) 408 cells: THxxxPMB5-72SS (xxx = 395-435, in increment of 5) 408 cells: THxxxPMB5-72SA (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SAF (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SAS (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SB (xxx = 460-505, in increment of 5) 408 cells: THxxxPMB5-72SBF (xxx = 460-500, in increment of 5) 408 cells: THxxxPMB5-72SBS (xxx = 460-505, in increment of 5) 360 cells: THxxxPM5-66S (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SA (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SAF (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SAS (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66S (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SA (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SAF (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SAS (xxx = 370-400, in increment of 5) 340 cells: THxxxPM5-60S (xxx = 325-380, in increment of 5)</p>

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Carra Chen

(Signature of authorized TÜV NORD CERT engineer)

	<p>340 cells: THxxxPM5-60SA (xxx = 350-380, in increment of 5)</p> <p>340 cells: THxxxPM5-60SAF (xxx = 350-380, in increment of 5)</p> <p>340 cells: THxxxPM5-60SAS (xxx = 350-380, in increment of 5)</p> <p>340 cells: THxxxPM5-60SF (xxx = 325-360, in increment of 5)</p> <p>340 cells: THxxxPM5-60SS (xxx = 325-360, in increment of 5)</p> <p>340 cells: THxxxPM5-60SB (xxx = 380-415, in increment of 5)</p> <p>340 cells: THxxxPM5-60SBF (xxx = 380-415, in increment of 5)</p> <p>340 cells: THxxxPM5-60SBS (xxx = 380-415, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SB (xxx = 380-420, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SBF (xxx = 380-415, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SBS (xxx = 380-420, in increment of 5)</p> <p>340 cells: THxxxPMB5-60S (xxx = 325-380, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SA (xxx = 350-380, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SF (xxx = 325-360, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SS (xxx = 325-360, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SAF (xxx = 350-380, in increment of 5)</p> <p>340 cells: THxxxPMB5-60SAS (xxx = 350-380, in increment of 5)</p> <p>PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells:</p> <p>414 cells: THxxxPM6-69SC (xxx = 645-655, in increment of 5)</p> <p>414 cells: THxxxPMB6-69SC (xxx = 645-670, in increment of 5)</p> <p>408 cells: THxxxPM6-68SC (xxx = 635-655, in increment of 5)</p> <p>408 cells: THxxxPMB6-68SC (xxx = 635-660, in increment of 5)</p> <p>390 cells: THxxxPM6-65SC (xxx = 605-625, in increment of 5)</p> <p>390 cells: THxxxPMB6-65SC (xxx = 605-630, in increment of 5)</p> <p>345 cells: THxxxPM6-58SC (xxx = 535-550, in increment of 5)</p> <p>345 cells: THxxxPMB6-58SC (xxx = 535-555, in increment of 5)</p> <p>340 cells: THxxxPM6-57SC (xxx = 530-545, in increment of 5)</p> <p>340 cells: THxxxPMB6-57SC (xxx = 530-550, in increment of 5)</p> <p>325 cells: THxxxPM6-54SC (xxx = 505-520, in increment of 5)</p> <p>325 cells: THxxxPMB6-54SC (xxx = 505-525, in increment of 5)</p> <p>320 cells: THxxxPMB7-46SC (xxx = 425-445, in increment of 5)</p> <p>320 cells: THxxxPMB7-46SCS (xxx = 425-445, in increment of 5)</p> <p>320 cells: THxxxPMB7-46SCF (xxx = 420-440, in increment of 5)</p> <p>305 cells: THxxxPMB7-44SC (xxx = 405-425, in increment of 5)</p> <p>305 cells: THxxxPMB7-44SCS (xxx = 405-425, in increment of 5)</p> <p>305 cells: THxxxPMB7-44SCF (xxx = 400-420, in increment of 5)</p> <p>PV Modules with Half-cut 7" PERC Mono-crystalline Silicon Solar Cells:</p> <p>156 cells: TWMPD-78HSxxx (xxx = 570-620, in increment of 5)</p> <p>156 cells: TWMPD-78HBxxx (xxx = 570-620, in increment of 5)</p> <p>156 cells: TWxxxMAP-156-H (xxx = 580-605, in increment of 5)</p> <p>156 cells: TWxxxMAP-156-H-S (xxx = 580-605, in increment of 5)</p>
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	<p>156 cells: TWxxxMAP-156-H-F (xxx = 580-605, in increment of 5)</p> <p>156 cells: TWxxxMGP-156-H (xxx = 570-620, in increment of 5)</p> <p>156 cells: TWxxxMGP-156-H-S (xxx = 570-620, in increment of 5)</p> <p>156 cells: TWxxxMGP-156-H-F (xxx = 570-620, in increment of 5)</p> <p>144 cells: TWMPD-72HSxxx (xxx = 525-570, in increment of 5)</p> <p>144 cells: TWMPD-72HBxxx (xxx = 525-570, in increment of 5)</p> <p>144 cells: TWxxxMAP-144-H (xxx = 530-565, in increment of 5)</p> <p>144 cells: TWxxxMAP-144-H-S (xxx = 530-565, in increment of 5)</p> <p>144 cells: TWxxxMAP-144-H-F (xxx = 530-565, in increment of 5)</p> <p>144 cells: TWxxxMGP-144-H (xxx = 525-570, in increment of 5)</p> <p>144 cells: TWxxxMGP-144-H-S (xxx = 525-570, in increment of 5)</p> <p>144 cells: TWxxxMGP-144-H-F (xxx = 525-570, in increment of 5)</p> <p>132 cells: TWMPD-66HSxxx (xxx = 480-525, in increment of 5)</p> <p>132 cells: TWMPD-66HBxxx (xxx = 480-525, in increment of 5)</p> <p>132 cells: TWxxxMAP-132-H (xxx = 485-515, in increment of 5)</p> <p>132 cells: TWxxxMAP-132-H-S (xxx = 485-515, in increment of 5)</p> <p>132 cells: TWxxxMAP-132-H-F (xxx = 485-515, in increment of 5)</p> <p>132 cells: TWxxxMGP-132-H (xxx = 480-525, in increment of 5)</p> <p>132 cells: TWxxxMGP-132-H-S (xxx = 480-525, in increment of 5)</p> <p>132 cells: TWxxxMGP-132-H-F (xxx = 480-525, in increment of 5)</p> <p>120 cells: TWMPD-60HSxxx (xxx = 440-475, in increment of 5)</p> <p>120 cells: TWMPD-60HBxxx (xxx = 440-475, in increment of 5)</p> <p>120 cells: TWxxxMAP-120-H (xxx = 440-470, in increment of 5)</p> <p>120 cells: TWxxxMAP-120-H-S (xxx = 440-470, in increment of 5)</p> <p>120 cells: TWxxxMAP-120-H-F (xxx = 440-470, in increment of 5)</p> <p>120 cells: TWxxxMGP-120-H (xxx = 440-475, in increment of 5)</p> <p>120 cells: TWxxxMGP-120-H-S (xxx = 440-475, in increment of 5)</p> <p>120 cells: TWxxxMGP-120-H-F (xxx = 440-475, in increment of 5)</p> <p>108 cells: TWMPD-54HSxxx (xxx = 395-430, in increment of 5)</p> <p>108 cells: TWMPD-54HBxxx (xxx = 395-430, in increment of 5)</p> <p>108 cells: TWxxxMAP-108-H (xxx = 400-420, in increment of 5)</p> <p>108 cells: TWxxxMAP-108-H-S (xxx = 400-420, in increment of 5)</p> <p>108 cells: TWxxxMAP-108-H-F (xxx = 400-420, in increment of 5)</p> <p>108 cells: TWxxxMGP-108-H (xxx = 395-430, in increment of 5)</p> <p>108 cells: TWxxxMGP-108-H-S (xxx = 395-430, in increment of 5)</p> <p>108 cells: TWxxxMGP-108-H-F (xxx = 395-430, in increment of 5)</p> <p>144 cells: TWMPG-72HSxxx (xxx = 565-590, in increment of 5)</p> <p>144 cells: TWMPG-72HBxxx (xxx = 565-590, in increment of 5)</p> <p>108 cells: TWMPG-54HSxxx (xxx = 420-440, in increment of 5)</p> <p>108 cells: TWMPG-54HBxxx (xxx = 420-440, in increment of 5)</p> <p>132 cells: TWMPH-66HSxxx (xxx = 565-585, in increment of 5)</p> <p>132 cells: TWMPH-66HBxxx (xxx = 565-585, in increment of 5)</p>
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	<p>120 cells: TWMPH-60HSxxx (xxx = 515-530, in increment of 5) 120 cells: TWMPH-60HBxxx (xxx = 515-530, in increment of 5) 96 cells: TWMPH-48HSxxx (xxx = 410-425, in increment of 5) 96 cells: TWMPH-48HBxxx (xxx = 410-425, in increment of 5) PV Modules with Half-cut 7" TOPCon Mono-crystalline Silicon Solar Cells: 156 cells: TWMND-78HSxxx (xxx = 570-640, in increment of 5) 156 cells: TWMND-78HBxxx (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H-S (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H-F (xxx = 570-640, in increment of 5) 144 cells: TWMND-72HSxxx (xxx = 525-590, in increment of 5) 144 cells: TWMND-72HBxxx (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H-S (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H-F (xxx = 525-590, in increment of 5) 132 cells: TWMND-66HSxxx (xxx = 485-540, in increment of 5) 132 cells: TWMND-66HBxxx (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H-S (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H-F (xxx = 485-540, in increment of 5) 120 cells: TWMND-60HSxxx (xxx = 440-490, in increment of 5) 120 cells: TWMND-60HBxxx (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H-S (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H-F (xxx = 440-490, in increment of 5) 108 cells: TWMND-54HSxxx (xxx = 395-440, in increment of 5) 108 cells: TWMND-54HBxxx (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H-S (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H-F (xxx = 395-440, in increment of 5) 144 cells: TWMNG-72HSxxx (xxx = 585-625, in increment of 5) 144 cells: TWMNG-72HBxxx (xxx = 585-625, in increment of 5) 108 cells: TWMNG-54HSxxx (xxx = 435-465, in increment of 5) 108 cells: TWMNG-54HBxxx (xxx = 435-465, in increment of 5) 132 cells: TWMNH-66HSxxx (xxx = 585-625, in increment of 5) 132 cells: TWMNH-66HBxxx (xxx = 585-625, in increment of 5) 120 cells: TWMNH-60HSxxx (xxx = 530-565, in increment of 5) 120 cells: TWMNH-60HBxxx (xxx = 530-565, in increment of 5) 96 cells: TWMNH-48HSxxx (xxx = 425-455, in increment of 5) 96 cells: TWMNH-48HBxxx (xxx = 425-455, in increment of 5) PV Modules with Half-cut 8" PERC Mono-crystalline Silicon Solar Cells:</p>
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	<p>132 cells: TWMPF-66HSxxx (xxx = 640-695, in increment of 5)</p> <p>132 cells: TWMPF-66HBxxx (xxx = 640-695, in increment of 5)</p> <p>132 cells: TWxxxMIP-132-H (xxx = 640-695, in increment of 5)</p> <p>132 cells: TWxxxMIP-132-H-S (xxx = 640-695, in increment of 5)</p> <p>132 cells: TWxxxMIP-132-H-F (xxx = 640-695, in increment of 5)</p> <p>132 cells: TWxxxMCP-132-H (xxx = 640-670, in increment of 5)</p> <p>132 cells: TWxxxMCP-132-H-S (xxx = 640-670, in increment of 5)</p> <p>132 cells: TWxxxMCP-132-H-F (xxx = 640-670, in increment of 5)</p> <p>120 cells: TWMPF-60HSxxx (xxx = 580-630, in increment of 5)</p> <p>120 cells: TWMPF-60HBxxx (xxx = 580-630, in increment of 5)</p> <p>120 cells: TWxxxMIP-120-H (xxx = 580-630, in increment of 5)</p> <p>120 cells: TWxxxMIP-120-H-S (xxx = 580-630, in increment of 5)</p> <p>120 cells: TWxxxMIP-120-H-F (xxx = 580-630, in increment of 5)</p> <p>120 cells: TWxxxMCP-120-H (xxx = 580-610, in increment of 5)</p> <p>120 cells: TWxxxMCP-120-H-S (xxx = 580-610, in increment of 5)</p> <p>120 cells: TWxxxMCP-120-H-F (xxx = 580-610, in increment of 5)</p> <p>108 cells: TWMPF-54HSxxx (xxx = 525-565, in increment of 5)</p> <p>108 cells: TWMPF-54HBxxx (xxx = 525-565, in increment of 5)</p> <p>108 cells: TWxxxMIP-108-H (xxx = 525-565, in increment of 5)</p> <p>108 cells: TWxxxMIP-108-H-S (xxx = 525-565, in increment of 5)</p> <p>108 cells: TWxxxMIP-108-H-F (xxx = 525-565, in increment of 5)</p> <p>108 cells: TWxxxMCP-108-H (xxx = 525-545, in increment of 5)</p> <p>108 cells: TWxxxMCP-108-H-S (xxx = 525-545, in increment of 5)</p> <p>108 cells: TWxxxMCP-108-H-F (xxx = 525-545, in increment of 5)</p> <p>110 cells: TWMPF-55HSxxx (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWMPF-55HBxxx (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMIP-110-H (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMIP-110-H-S (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMIP-110-H-F (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMCP-110-H (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMCP-110-H-S (xxx = 535-580, in increment of 5)</p> <p>110 cells: TWxxxMCP-110-H-F (xxx = 535-580, in increment of 5)</p> <p>100 cells: TWMPF-50HSxxx (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWMPF-50HBxxx (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMIP-100-H (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMIP-100-H-S (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMIP-100-H-F (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMCP-100-H (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMCP-100-H-S (xxx = 485-525, in increment of 5)</p> <p>100 cells: TWxxxMCP-100-H-F (xxx = 485-525, in increment of 5)</p> <p>PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:</p> <p>132 cells: TWMNF-66HSxxx (xxx = 650-700, in increment of 5)</p>
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	132 cells: TWMNF-66HBxxx (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H-S (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H-F (xxx = 650-700, in increment of 5) 120 cells: TWMNF-60HSxxx (xxx = 590-635, in increment of 5) 120 cells: TWMNF-60HBxxx (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H-S (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H-F (xxx = 590-635, in increment of 5) 108 cells: TWMNF-54HSxxx (xxx = 530-570, in increment of 5) 108 cells: TWMNF-54HBxxx (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H-S (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H-F (xxx = 530-570, in increment of 5) 110 cells: TWMNF-55HSxxx (xxx = 540-580, in increment of 5) 110 cells: TWMNF-55HBxxx (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H-S (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H-F (xxx = 540-580, in increment of 5) 100 cells: TWMNF-50HSxxx (xxx = 490-530, in increment of 5) 100 cells: TWMNF-50HBxxx (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H-S (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H-F (xxx = 490-530, in increment of 5)
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Electrical ratings:

PV Modules with Segmented 6" Mono-crystalline Silicon Solar Cells:

Module type	408 cells: THxxxCM5-72S (xxx = 350-390, in increment of 5) for 6" mono cell 1		
Dimensions [mm] / l x w x h	Size 1: 1965 x 1069 x 40 Size 2: 1942 x 1046 x 40 Size 3: 1942 x 1069 x 40		
Rated Pmpp [W]	350; 355; 360; 365; 370; 375; 380; 385; 390	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	43.0; 43.2; 43.4; 43.6; 43.9; 44.0; 44.1; 44.1; 44.2	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	10.41; 10.48; 10.55; 10.62; 10.86; 10.98; 11.03; 11.13; 11.19	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II

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Min-creepage distance [mm]	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A]	20
Design load (positive) [Pa]	See remark 3	Safety factor (positive)	1.5
Design load (negative) [Pa]	See remark 3	Safety factor (negative)	1.5

Module type	340 cells: THxxxCM5-60S (xxx = 290-325, in increment of 5) for 6" mono cell 1		
Dimensions [mm] / l x w x h	Size 1: 1645 x 1068 x 40 / 35 Size 2: 1622 x 1045 x 40 / 35 Size 3: 1622 x 1068 x 40 / 35		
Rated Pmpp [W]	290; 295; 300; 305; 310; 315; 320; 325	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	42.8; 43.0; 43.2; 43.9; 44.0; 44.1; 44.1; 44.2	Tolerance of rated Voc [%]	±3
Rated Isc [A]	8.76; 8.83; 8.90; 9.05; 9.15; 9.19; 9.28; 9.33	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

PV Modules with Segmented 6" PERC Mono-crystalline Silicon Solar Cells:

Module type	432 cells: THxxxPM5-78S (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SA (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SAF (xxx = 445-480, in increment of 5) 432 cells: THxxxPM5-78SAS (xxx = 445-480, in increment of 5) for 6" mono cell 3		
Dimensions [mm] / l x w x h	Size 1: 1969 x 1147 x 40 / 35 Size 2: 1969 x 1140 x 40 / 35 Size 3: 1969 x 1141 x 35		
Rated Pmpp [W]	445; 450; 455; 460; 465; 470; 475; 480	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	48.6; 48.8; 49.0; 49.2; 49.4; 49.4; 49.5; 49.6	Tolerance of rated Voc [%]	±3

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Rated Isc [A]	11.85; 11.90; 11.95; 11.99; 12.03; 12.07; 12.12; 12.17	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	432 cells: THxxxPMB5-78S (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SA (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SAF (xxx = 445-480, in increment of 5) 432 cells: THxxxPMB5-78SAS (xxx = 445-480, in increment of 5) for 6" mono cell 5, 8		
Dimensions [mm] / l x w x h	Size 1: 1969 x 1147 x 40 / 35 Size 2: 1969 x 1140 x 40 / 35 Size 3: 1969 x 1141 x 35		
Rated Pmpp [W].....	445; 450; 455; 460; 465; 470; 475; 480	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	48.6; 48.8; 49.0; 49.2; 49.4; 49.4; 49.5; 49.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	11.85; 11.90; 11.95; 11.99; 12.03; 12.07; 12.12; 12.17	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPM5-72S (xxx = 395-435, in increment of 5) 408 cells: THxxxPM5-72SF (xxx = 395-435, in increment of 5) 408 cells: THxxxPM5-72SS (xxx = 395-435, in increment of 5) for 6" mono cell 2		
Dimensions [mm] / l x w x h	Size 1: 1965 x 1069 x 40 / 35 Size 2: 1942 x 1046 x 40 / 35 Size 3: 1942 x 1069 x 40 / 35		
Rated Pmpp [W].....	395; 400; 405; 410; 415; 420; 425; 430; 435	Tolerance of rated Pmpp [%].....	±3

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Rated Voc [V]..... :	45.2; 45.2; 45.3; 45.3; 45.4; 45.5; 45.8; 46.0; 46.2	Tolerance of rated Voc [%]	±3
Rated Isc [A]	11.31; 11.35; 11.39; 11.43; 11.47; 11.53; 11.59; 11.65; 11.71	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPM5-72S (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SA (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SAF (xxx = 420-455, in increment of 5) 408 cells: THxxxPM5-72SAS (xxx = 420-455, in increment of 5) for 6" mono cell 3		
Dimensions [mm] / l x w x h	Size 1: 1971 x 1102 x 40 / 35 Size 2: 1969 x 1084 x 40 / 35		
Rated Pmpp [W]..... :	420; 425; 430; 435; 440; 445; 450; 455	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V]..... :	46.0; 46.0; 46.1 46.2; 46.3; 46.4; 46.5; 46.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	11.93; 11.98; 12.03; 12.08; 12.12; 12.16; 12.20; 12.24	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPM5-72SB (xxx = 460-500, in increment of 5) 408 cells: THxxxPM5-72SBF (xxx = 460-500, in increment of 5) 408 cells: THxxxPM5-72SBS (xxx = 460-500, in increment of 5) for 6" mono cell 6		
Dimensions [mm] / l x w x h	Size 1: 2056 x 1147 x 40 / 35 Size 2: 2056 x 1140 x 40 / 35 Size 3: 2056 x 1108 x 40 / 35		

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Rated Pmpp [W]..... :	460; 465; 470; 475; 480; 485; 490; 495; 500	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.3; 46.3; 46.4; 46.5; 46.6; 46.6; 46.7; 46.8; 46.8	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	12.81; 12.85; 13.04; 13.10; 13.16; 13.22; 13.28; 13.34; 13.40	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPMB5-72S (xxx = 395-435, in increment of 5) 408 cells: THxxxPMB5-72SF (xxx = 395-435, in increment of 5) 408 cells: THxxxPMB5-72SS (xxx = 395-435, in increment of 5) for 6" mono cell 4		
Dimensions [mm] / l x w x h	Size 1: 1965 x 1069 x 40 / 35 Size 2: 1942 x 1046 x 40 / 35 Size 3: 1942 x 1069 x 40 / 35		
Rated Pmpp [W]..... :	395; 400; 405; 410; 415; 420; 425; 430; 435	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	45.2; 45.2; 45.3; 45.3; 45.4; 45.5; 45.8; 46.0; 46.2	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	11.31; 11.35; 11.39; 11.43; 11.47; 11.53; 11.59; 11.65; 11.71	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPMB5-72S (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SA (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SAF (xxx = 420-455, in increment of 5) 408 cells: THxxxPMB5-72SAS (xxx = 420-455, in increment of 5) for 6" mono cell 5		
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Dimensions [mm] / l x w x h	Size 1: 1971 x 1102 x 40 / 35 Size 2: 1969 x 1084 x 40 / 35		
Rated Pmpp [W].....	420; 425; 430; 435; 440; 445; 450; 455	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.0; 46.0; 46.1; 46.2; 46.3; 46.4; 46.5; 46.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	11.93; 11.98; 12.03; 12.08; 12.12; 12.16; 12.20; 12.24	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPMB5-72SBF (xxx = 460-500, in increment of 5) for 6" mono cell 7		
Dimensions [mm] / l x w x h	Size 1: 2056 x 1147 x 40 / 35 Size 2: 2056 x 1140 x 40 / 35 Size 3: 2056 x 1108 x 40 / 35		
Rated Pmpp [W].....	460; 465; 470; 475; 480; 485; 490; 495; 500	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.3; 46.3; 46.4; 46.5; 46.6; 46.6; 46.7; 46.8; 46.8	Tolerance of rated Voc [%]	±3
Rated Isc [A]	12.81; 12.85; 13.04; 13.10; 13.16; 13.22; 13.28; 13.34; 13.40	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPMB5-72SB (xxx = 460-505, in increment of 5) 408 cells: THxxxPMB5-72SBS (xxx = 460-505, in increment of 5) for 6" mono cell 7		
Dimensions [mm] / l x w x h	Size 1: 2056 x 1147 x 40 / 35 Size 2: 2056 x 1140 x 40 / 35 Size 3: 2056 x 1108 x 40 / 35		

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Rated Pmpp [W]..... :	460; 465; 470; 475; 480; 485; 490; 495; 500; 505	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.3; 46.3; 46.4; 46.5; 46.6; 46.6; 46.7; 46.8; 46.8; 46.9	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	12.81; 12.85; 13.04; 13.10; 13.16; 13.22; 13.28; 13.34; 13.40; 13.46	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	360 cells: THxxxPM5-66S (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SA (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SAF (xxx = 370-400, in increment of 5) 360 cells: THxxxPM5-66SAS (xxx = 370-400, in increment of 5) for 6" mono cell 3		
Dimensions [mm] / l x w x h	Size 1: 1646 x 1147 x 40 / 35 / 30 Size 2: 1646 x 1140 x 40 / 35 / 30		
Rated Pmpp [W]..... :	370; 375; 380; 385; 390; 395; 400	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	48.7; 48.9; 49.1; 49.3; 49.3; 49.4; 49.5	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	9.85; 9.89; 9.93; 9.98; 10.03; 10.07; 10.12	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	360 cells: THxxxPMB5-66S (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SA (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SAF (xxx = 370-400, in increment of 5) 360 cells: THxxxPMB5-66SAS (xxx = 370-400, in increment of 5) for 6" mono cell 5, 8		
Dimensions [mm] / l x w x h	Size 1: 1646 x 1147 x 40 / 35 / 30 Size 2: 1646 x 1140 x 40 / 35 / 30		

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Rated Pmpp [W]..... :	370; 375; 380; 385; 390; 395; 400	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	48.7; 48.9; 49.1; 49.3; 49.3; 49.4; 49.5	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	9.85; 9.89; 9.93; 9.98; 10.03; 10.07; 10.12	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPM5-60S (xxx = 350-380, in increment of 5) 340 cells: THxxxPM5-60SA (xxx = 350-380, in increment of 5) 340 cells: THxxxPM5-60SAF (xxx = 350-380, in increment of 5) 340 cells: THxxxPM5-60SAS (xxx = 350-380, in increment of 5) for 6" mono cell 3		
Dimensions [mm] / l x w x h	Size 1: 1649 x 1102 x 40 / 35 / 30 Size 2: 1646 x 1084 x 40 / 35 / 30		
Rated Pmpp [W]..... :	350; 355; 360; 365; 370; 375; 380	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	45.9; 46.0; 46.1; 46.2; 46.3; 46.4; 46.5	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	9.98; 10.04; 10.10; 10.16; 10.22; 10.28; 10.34	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPM5-60S (xxx = 325-360, in increment of 5) 340 cells: THxxxPM5-60SF (xxx = 325-360, in increment of 5) 340 cells: THxxxPM5-60SS (xxx = 325-360, in increment of 5) for 6" mono cell 2		
Dimensions [mm] / l x w x h	Size 1: 1645 x 1068 x 40 / 35 / 30 Size 2: 1622 x 1045 x 40 / 35 / 30 Size 3: 1622 x 1068 x 40 / 35 / 30		
Rated Pmpp [W]..... :	325; 330; 335; 340; 345; 350; 355; 360	Tolerance of rated Pmpp [%]..... :	±3

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Rated Voc [V]..... :	45.1; 45.1; 45.2; 45.2; 45.3; 45.4; 45.6; 45.8	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	9.42; 9.45; 9.49; 9.51; 9.55; 9.60; 9.65; 9.70	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPM5-60SB (xxx = 380-415, in increment of 5) 340 cells: THxxxPM5-60SBF (xxx = 380-415, in increment of 5) 340 cells: THxxxPM5-60SBS (xxx = 380-415, in increment of 5) for 6" mono cell 6		
Dimensions [mm] / l x w x h	Size 1: 1719 x 1147 x 40 / 35 / 30 Size 2: 1719 x 1140 x 40 / 35 / 30 Size 3: 1719 x 1108 x 40 / 35 / 30		
Rated Pmpp [W]..... :	380; 385; 390; 395; 400; 405; 410; 415	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.1; 46.2; 46.3; 46.3; 46.4; 46.5; 46.6; 46.7	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	10.77; 10.82; 10.87; 10.92; 10.97; 11.02; 11.07; 11.12	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPMB5-60S (xxx = 325-360, in increment of 5) 340 cells: THxxxPMB5-60SF (xxx = 325-360, in increment of 5) 340 cells: THxxxPMB5-60SS (xxx = 325-360, in increment of 5) for 6" mono cell 4		
Dimensions [mm] / l x w x h	Size 1: 1645 x 1068 x 40 / 35 / 30 Size 2: 1622 x 1045 x 40 / 35 / 30 Size 3: 1622 x 1068 x 40 / 35 / 30		
Rated Pmpp [W]..... :	325; 330; 335; 340; 345; 350; 355; 360	Tolerance of rated Pmpp [%]..... :	±3

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Rated Voc [V]..... :	45.1; 45.1; 45.2; 45.2; 45.3; 45.4; 45.6; 45.8	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	9.42; 9.45; 9.49; 9.51; 9.55; 9.60; 9.65; 9.70	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	Size 1: 25.0 Size 2: 13.5 Size 3: 10.4	Fuse rating [A] :	20
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	340 cells: THxxxPMB5-60S (xxx = 350-380, in increment of 5) 340 cells: THxxxPMB5-60SA (xxx = 350-380, in increment of 5) 340 cells: THxxxPMB5-60SAF (xxx = 350-380, in increment of 5) 340 cells: THxxxPMB5-60SAS (xxx = 350-380, in increment of 5) for 6" mono cell 5		
Dimensions [mm] / l x w x h :	Size 1: 1649 x 1102 x 40 / 35 / 30 Size 2: 1646 x 1084 x 40 / 35 / 30		
Rated Pmpp [W]..... :	350; 355; 360; 365; 370; 375; 380	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	45.9; 46.0; 46.1; 46.2; 46.3; 46.4; 46.5	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	9.98; 10.04; 10.10; 10.16; 10.22; 10.28; 10.34	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	10.4	Fuse rating [A] :	20
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	340 cells: THxxxPMB5-60SBF (xxx = 380-415, in increment of 5) for 6" mono cell 7		
Dimensions [mm] / l x w x h :	Size 1: 1719 x 1147 x 40 / 35 / 30 Size 2: 1719 x 1140 x 40 / 35 / 30 Size 3: 1719 x 1108 x 40 / 35 / 30		
Rated Pmpp [W]..... :	380; 385; 390; 395; 400; 405; 410; 415	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.1; 46.2; 46.3; 46.3; 46.4; 46.5; 46.6; 46.7	Tolerance of rated Voc [%]..... :	±3

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Rated Isc [A]	10.77; 10.82; 10.87; 10.92; 10.97; 11.02; 11.07; 11.12	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPMB5-60SB (xxx = 380-420, in increment of 5) 340 cells: THxxxPMB5-60SBS (xxx = 380-420, in increment of 5) for 6" mono cell 7		
Dimensions [mm] / l x w x h	Size 1: 1719 x 1147 x 40 / 35 / 30 Size 2: 1719 x 1140 x 40 / 35 / 30 Size 3: 1719 x 1108 x 40 / 35 / 30		
Rated Pmpp [W].....	380; 385; 390; 395; 400; 405; 410; 415; 420	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.1; 46.2; 46.3; 46.3; 46.4; 46.5; 46.6; 46.7; 46.8	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	10.77; 10.82; 10.87; 10.92; 10.97; 11.02; 11.07; 11.12; 11.17	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	20
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells:

Module type	414 cells: THxxxPM6-69SC (xxx = 645-655, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	2384 x 1303 x 35		
Rated Pmpp [W].....	645; 650; 655	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.6; 46.7; 46.8	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	17.74; 17.84; 17.94	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5

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Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5
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Module type	414 cells: THxxxPMB6-69SC (xxx = 645-670, in increment of 5) for 8" mono cell 10		
Dimensions [mm] / l x w x h	2384 x 1303 x 35		
Rated Pmpp [W].....	645; 650; 655; 660; 665; 670	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.6; 46.7; 46.8; 46.9; 47.0; 47.1	Tolerance of rated Voc [%]	±3
Rated Isc [A]	17.74; 17.84; 17.94; 18.05; 18.15; 18.25	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPM6-68SC (xxx = 635-655, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	2355 x 1303 x 35		
Rated Pmpp [W].....	635; 640; 645; 650; 655	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	45.9; 46.0; 46.1; 46.2; 46.3	Tolerance of rated Voc [%]	±3
Rated Isc [A]	17.73; 17.83; 17.93; 18.02; 18.13	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	408 cells: THxxxPMB6-68SC (xxx = 635-660, in increment of 5) for 8" mono cell 10		
Dimensions [mm] / l x w x h	2355 x 1303 x 35		
Rated Pmpp [W].....	635; 640; 645; 650; 655; 660	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	45.9; 46.0; 46.1; 46.2; 46.3; 46.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	17.73; 17.83; 17.93; 18.02; 18.13; 18.25	Tolerance of rated Isc [%].....	±3

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Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140.....:	Class II
Min-creepage distance [mm] :	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	390 cells: THxxxPM6-65SC (xxx = 605-625, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	2253 x 1303 x 35		
Rated Pmpp [W].....	605; 610; 615; 620; 625	Tolerance of rated Pmpp [%].....:	±3
Rated Voc [V].....	43.9; 44.0; 44.1; 44.2; 44.3	Tolerance of rated Voc [%]	±3
Rated Isc [A]	17.66; 17.77; 17.87; 17.98; 18.08	Tolerance of rated Isc [%].....:	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140.....:	Class II
Min-creepage distance [mm] :	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	390 cells: THxxxPMB6-65SC (xxx = 605-630, in increment of 5) for 8" mono cell 10		
Dimensions [mm] / l x w x h	2253 x 1303 x 35		
Rated Pmpp [W].....	605; 610; 615; 620; 625; 630	Tolerance of rated Pmpp [%].....:	±3
Rated Voc [V].....	43.9; 44.0; 44.1; 44.2; 44.3; 44.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	17.66; 17.77; 17.87; 17.98; 18.08; 18.19	Tolerance of rated Isc [%].....:	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140.....:	Class II
Min-creepage distance [mm] :	10.4	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	345 cells: THxxxPM6-58SC (xxx = 535-550, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	2384 x 1096 x 35		
Rated Pmpp [W].....	535; 540; 545; 550	Tolerance of rated Pmpp [%].....:	±3

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Rated Voc [V]..... :	46.8; 46.9; 47.0; 47.1	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	14.65; 14.76; 14.86; 14.97	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	345 cells: THxxxPMB6-58SC (xxx = 535-555, in increment of 5) for 8" mono cell 10		
Dimensions [mm] / l x w x h	2384 x 1096 x 35		
Rated Pmpp [W]..... :	535; 540; 545; 550; 555	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.8; 46.9; 47.0; 47.1; 47.2	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	14.65; 14.76; 14.86; 14.97; 15.07	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPM6-57SC (xxx = 530-545, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	Size 1: 2355 x 1090 x 35 Size 2: 2355 x 1096 x 35		
Rated Pmpp [W]..... :	530; 535; 540; 545	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	46.0; 46.1; 46.2; 46.3	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	14.77; 14.87; 14.98; 15.09	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	340 cells: THxxxPMB6-57SC (xxx = 530-550, in increment of 5) for 8" mono cell 10		
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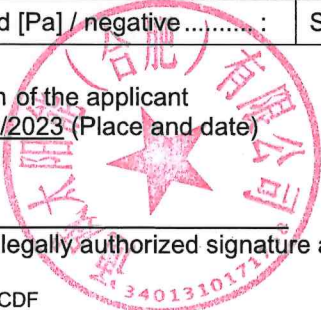
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Dimensions [mm] / l x w x h	Size 1: 2355 x 1090 x 35 Size 2: 2355 x 1096 x 35		
Rated Pmpp [W].....	530; 535; 540; 545; 550	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.0; 46.1; 46.2; 46.3; 46.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	14.77; 14.87; 14.98; 15.09; 15.20	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	325 cells: THxxxPM6-54SC (xxx = 505-520, in increment of 5) for 8" mono cell 9		
Dimensions [mm] / l x w x h	2253 x 1096 x 35		
Rated Pmpp [W].....	505; 510; 515; 520	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	44.1; 44.2; 44.3; 44.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	14.68; 14.79; 14.90; 15.01	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	325 cells: THxxxPMB6-54SC (xxx = 505-525, in increment of 5) for 8" mono cell 10		
Dimensions [mm] / l x w x h	2253 x 1096 x 35		
Rated Pmpp [W].....	505; 510; 515; 520; 525	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	44.1; 44.2; 44.3; 44.4; 44.5	Tolerance of rated Voc [%]	±3
Rated Isc [A]	14.68; 14.79; 14.90; 15.01; 15.13	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.4	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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Module type	320 cells: THxxxPMB7-46SC (xxx = 425-445, in increment of 5) 320 cells: THxxxPMB7-46SCS (xxx = 425-445, in increment of 5) for 8" mono cell 11		
Dimensions [mm] / l x w x h	1899 x 1096 x 30		
Rated Pmpp [W].....	425; 430; 435; 440; 445	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	43.4; 43.5; 43.6; 43.7; 43.8	Tolerance of rated Voc [%]	±3
Rated Isc [A]	12.56; 12.68; 12.79; 12.90; 13.01	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.67	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	320 cells: THxxxPMB7-46SCF (xxx = 420-440, in increment of 5) for 8" mono cell 11		
Dimensions [mm] / l x w x h	1899 x 1096 x 30		
Rated Pmpp [W].....	420; 425; 430; 435; 440	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	43.3; 43.4; 43.5; 43.6; 43.7	Tolerance of rated Voc [%]	±3
Rated Isc [A]	12.46; 12.56; 12.68; 12.79; 12.90	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.67	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	305 cells: THxxxPMB7-44SC (xxx = 405-425, in increment of 5) 305 cells: THxxxPMB7-44SCS (xxx = 405-425, in increment of 5) for 8" mono cell 11		
Dimensions [mm] / l x w x h	1812 x 1096 x 30		
Rated Pmpp [W].....	405; 410; 415; 420; 425	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	41.3; 41.4; 41.5; 41.6; 41.7	Tolerance of rated Voc [%]	±3
Rated Isc [A]	12.53; 12.65; 12.80; 12.92; 13.03	Tolerance of rated Isc [%].....	±3

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Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.67	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	305 cells: THxxxPMB7-44SCF (xxx = 400-420, in increment of 5) for 8" mono cell 11		
Dimensions [mm] / l x w x h	1812 x 1096 x 30		
Rated Pmpp [W].....	400; 405; 410; 415; 420	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	41.2; 41.3; 41.4; 41.5; 41.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	12.41; 12.53; 12.65; 12.80; 12.92	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.67	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

PV Modules with Half-cut 7" PERC Mono-crystalline Silicon Solar Cells:

Module type	156 cells: TWMPD-78HSxxx (xxx = 580-605, in increment of 5) 156 cells: TWxxxMAP-156-H (xxx = 580-605, in increment of 5) 156 cells: TWxxxMAP-156-H-S (xxx = 580-605, in increment of 5) 156 cells: TWMPD-78HBxxx (xxx = 580-605, in increment of 5) 156 cells: TWxxxMAP-156-H-F (xxx = 580-605, in increment of 5) for 7" mono cell 12		
Dimensions [mm] / l x w x h	2465±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	580, 585, 590, 595, 600, 605	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	53.35, 53.55, 53.75, 53.95, 54.15, 54.35,	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.81, 13.84, 13.87, 13.90, 13.93, 13.96	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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File No.: PVP07014/23P-04

Attached to Test Report No.: 492010913.076

Module type	156 cells: TWMPD-78HSxxx (xxx = 570-620, in increment of 5) 156 cells: TWxxxMGP-156-H (xxx = 570-620, in increment of 5) 156 cells: TWxxxMGP-156-H-S (xxx = 570-620, in increment of 5) 156 cells: TWMPD-78HBxxx (xxx = 570-620, in increment of 5) 156 cells: TWxxxMGP-156-H-F (xxx = 570-620, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	2465±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	52.95, 53.15, 53.35, 53.55, 53.75, 53.95, 54.15, 54.35, 54.55, 54.75, 54.95	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.75, 13.78, 13.81, 13.84, 13.87, 13.90, 13.93, 13.96, 13.99, 14.02, 14.05	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	144 cells: TWMPD-72HSxxx (xxx = 530-565, in increment of 5) 144 cells: TWxxxMAP-144-H (xxx = 530-565, in increment of 5) 144 cells: TWxxxMAP-144-H-S (xxx = 530-565, in increment of 5) 144 cells: TWMPD-72HBxxx (xxx = 530-565, in increment of 5) 144 cells: TWxxxMAP-144-H-F (xxx = 530-565, in increment of 5) for 7" mono cell 12		
Dimensions [mm] / l x w x h	2278±2 x 1134±2 x 35/30 2278±2 x 1140±2 x 35/30		
Rated Pmpp [W].....	530, 535, 540, 545, 550, 555, 560, 565	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	49.11, 49.31, 49.51, 49.71, 49.91, 50.11, 50.31, 50.51	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.76, 13.80, 13.84, 13.88, 13.92, 13.96, 14.00, 14.04	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm].....	12.2	Fuse rating [A]	25

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Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	144 cells: TWMPD-72HSxxx (xxx = 525-570, in increment of 5) 144 cells: TWxxxMGP-144-H (xxx = 525-570, in increment of 5) 144 cells: TWxxxMGP-144-H-S (xxx = 525-570, in increment of 5) 144 cells: TWMPD-72HBxxx (xxx = 525-570, in increment of 5) 144 cells: TWxxxMGP-144-H-F (xxx = 525-570, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	2278±2 x 1134±2 x 35/30 2278±2 x 1140±2 x 35/30		
Rated Pmpp [W].....	525, 530, 535, 540, 545, 550, 555, 560, 565, 570	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	48.91, 49.11, 49.31, 49.51, 49.71, 49.91, 50.11, 50.31, 50.51, 50.71	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.72, 13.76, 13.80, 13.84, 13.88, 13.92, 13.96, 14.00, 14.04, 14.08	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	144 cells: TWMPG-72HSxxx (xxx = 565-590, in increment of 5) 144 cells: TWMPG-72HBxxx (xxx = 565-590, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	2382±4 x 1134±2 x 35/30		
Rated Pmpp [W].....	565, 570, 575, 580, 585, 590	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	49.60, 49.80, 50.00, 50.20, 50.40, 50.60	Tolerance of rated Voc [%]	±3
Rated Isc [A]	14.35, 14.40, 14.45, 14.50, 14.55, 14.60	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.6	Fuse rating [A]	25
Design load [Pa] / positive.....	See remark 3	Safety factor / positive	1.5

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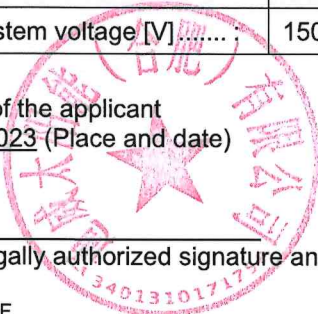
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Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5
Module type	132 cells: TWMPD-66HSxxx (xxx = 485-515, in increment of 5) 132 cells: TWxxxMAP-132-H (xxx = 485-515, in increment of 5) 132 cells: TWxxxMAP-132-H-S (xxx = 485-515, in increment of 5) 132 cells: TWMPD-66HBxxx (xxx = 485-515, in increment of 5) 132 cells: TWxxxMAP-132-H-F (xxx = 485-515, in increment of 5) for 7" mono cell 12		
Dimensions [mm] / l x w x h	2093±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	485, 490, 495, 500, 505, 510, 515	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	45.05, 45.25, 45.45, 45.65, 45.85, 46.05, 46.25	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.75, 13.80, 13.85, 13.90, 13.95, 14.00, 14.05	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	132 cells: TWMPD-66HSxxx (xxx = 480-525, in increment of 5) 132 cells: TWxxxMGP-132-H (xxx = 480-525, in increment of 5) 132 cells: TWxxxMGP-132-H-S (xxx = 480-525, in increment of 5) 132 cells: TWMPD-66HBxxx (xxx = 480-525, in increment of 5) 132 cells: TWxxxMGP-132-H-F (xxx = 480-525, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	2093±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	480, 485, 490, 495, 500, 505, 510, 515, 520, 525	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	44.85, 45.05, 45.25, 45.45, 45.65, 45.85, 46.05, 46.25, 46.45, 46.65	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.70, 13.75, 13.80, 13.85, 13.90, 13.95, 14.00, 14.05, 14.10, 14.15	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II

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Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	132 cells: TWMPH-66HSxxx (xxx = 565-585, in increment of 5) 132 cells: TWMPH-66HBxxx (xxx = 565-585, in increment of 5) for 7" mono cell 18		
Dimensions [mm] / l x w x h	2382±4 x 1134±2 x 35		
Rated Pmpp [W].....	565, 570, 575, 580, 585	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	45.40, 45.60, 45.80, 46.00, 46.20	Tolerance of rated Voc [%]	±3
Rated Isc [A]	15.61, 15.66, 15.71, 15.75, 15.82	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.5	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMPD-60HSxxx (xxx = 440-470, in increment of 5) 120 cells: TWxxxMAP-120-H (xxx = 440-470, in increment of 5) 120 cells: TWxxxMAP-120-H-S (xxx = 440-470, in increment of 5) 120 cells: TWMPD-60HBxxx (xxx = 440-470, in increment of 5) 120 cells: TWxxxMAP-120-H-F (xxx = 440-470, in increment of 5) for 7" mono cell 12		
Dimensions [mm] / l x w x h	1903±2 x 1134±2 x 35/30 1908±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	440, 445, 450, 455, 460, 465, 470	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	40.87, 41.04, 41.21, 41.38, 41.55, 41.72, 41.89	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.74, 13.79, 13.84, 13.89, 13.94, 13.99, 14.04	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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Module type	120 cells: TWMPD-60HSxxx (xxx = 440-475, in increment of 5) 120 cells: TWxxxMGP-120-H (xxx = 440-475, in increment of 5) 120 cells: TWxxxMGP-120-H-S (xxx = 440-475, in increment of 5) 120 cells: TWMPD-60HBxxx (xxx = 440-475, in increment of 5) 120 cells: TWxxxMGP-120-H-F (xxx = 440-475, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	1903±2 x 1134±2 x 35/30 1908±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	440, 445, 450, 455, 460, 465, 470, 475	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	40.87, 41.04, 41.21, 41.38, 41.55, 41.72, 41.89, 42.02	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.74, 13.79, 13.84, 13.89, 13.94, 13.99, 14.04, 14.09	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMPH-60HSxxx (xxx = 515-530, in increment of 5) 120 cells: TWMPH-60HBxxx (xxx = 515-530, in increment of 5) for 7" mono cell 18		
Dimensions [mm] / l x w x h	2172±2 x 1134±2 x 35		
Rated Pmpp [W].....	515,520, 525, 530	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	41.30, 41.50, 41.70, 41.90	Tolerance of rated Voc [%]	±3
Rated Isc [A]	15.65, 15.70, 15.75, 15.80	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.5	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	108 cells: TWMPD-54HSxxx (xxx = 400-420, in increment of 5) 108 cells: TWxxxMAP-108-H (xxx = 400-420, in increment of 5) 108 cells: TWxxxMAP-108-H-S (xxx = 400-420, in increment of 5)		
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	for 7" mono cell 12		
Dimensions [mm] / l x w x h	1722±2 x 1134±2 x 30/35 1722±2 x 1140±2 x 30/35		
Rated Pmpp [W].....	400, 405, 410, 415, 420	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	37.08, 37.23, 37.38, 37.53, 37.68	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.77, 13.87, 13.92, 13.95, 13.98	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.6	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative.....	1.5

Module type	108 cells: TWMPD-54HBxxx (xxx = 400-420, in increment of 5) 108 cells: TWxxxMAP-108-H-F (xxx = 400-420, in increment of 5) for 7" mono cell 12		
Dimensions [mm] / l x w x h	1722±2 x 1134±2 x 30/35 1722±2 x 1140±2 x 30/35		
Rated Pmpp [W].....	400, 405, 410, 415, 420	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	37.07, 37.23, 37.38, 37.53, 37.68	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.79, 13.87, 13.93, 13.99, 14.05	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.6	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	108 cells: TWMPD-54HSxxx (xxx = 395-430, in increment of 5) 108 cells: TWxxxMGP-108-H (xxx = 395-430, in increment of 5) 108 cells: TWxxxMGP-108-H-S (xxx = 395-430, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h	1722±2 x 1134±2 x 30/35 1722±2 x 1140±2 x 30/35		
Rated Pmpp [W].....	395, 400, 405, 410, 415, 420, 425, 430	Tolerance of rated Pmpp [%].....	±3

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Rated Voc [V]..... :	36.93, 37.08, 37.23, 37.38, 37.53, 37.68, 37.83, 37.98	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	13.67, 13.77, 13.87, 13.92, 13.95, 13.98, 14.05, 14.11	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.6	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative..... :	See remark 3	Safety factor / negative :	1.5

Module type :	108 cells: TWMPD-54HBxxx (xxx = 395-430, in increment of 5) 108 cells: TWxxxMGP-108-H-F (xxx = 395-430, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h :	1722±2 x 1134±2 x 30/35 1722±2 x 1140±2 x 30/35		
Rated Pmpp [W]..... :	395, 400, 405, 410, 415, 420, 425, 430	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	36.98, 37.07, 37.23, 37.38, 37.53, 37.68, 37.83, 37.98	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	13.70, 13.79, 13.87, 13.93, 13.99, 14.05, 14.11, 14.17	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.6	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative..... :	See remark 3	Safety factor / negative :	1.5

Module type :	108 cells: TWMPG-54HSxxx (xxx = 420-440, in increment of 5) 108 cells: TWMPG-54HBxxx (xxx = 420-440, in increment of 5) for 7" mono cell 13		
Dimensions [mm] / l x w x h :	1800±2 x 1134±2 x 30 / 35		
Rated Pmpp [W]..... :	420, 425, 430, 435, 440	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	37.20, 37.37, 37.54, 37.71, 37.88	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	14.28, 14.33, 14.38, 14.43, 14.48	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II

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Min-creepage distance [mm]	12.6	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	96 cells: TWMPH-48HSxxx (xxx = 410-425, in increment of 5) 96 cells: TWMPH-48HBxxx (xxx = 410-425, in increment of 5) for 7" mono cell 18		
Dimensions [mm] / l x w x h	1762±2 x 1134±2 x 30		
Rated Pmpp [W]	410, 415, 420, 425	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	33.15, 33.32, 33.49, 33.66	Tolerance of rated Voc [%]	±3
Rated Isc [A]	15.65, 15.71, 15.77, 15.83	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	10.5	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

PV Modules with Half-cut 7" TOPCon Mono-crystalline Silicon Solar Cells:

Module type	156 cells: TWMND-78HSxxx (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H-S (xxx = 570-640, in increment of 5) 156 cells: TWMND-78HBxxx (xxx = 570-640, in increment of 5) 156 cells: TWxxxMGT-156-H-F (xxx = 570-640, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h	2465±2 x 1134±2 x 35/30		
Rated Pmpp [W]	570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	54.85, 55.05, 55.25, 55.45, 55.65, 55.85, 56.05, 56.25, 56.45, 56.65, 56.85, 57.05, 57.25, 57.45, 57.65	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.00, 13.05, 13.10, 13.15, 13.20, 13.25, 13.30, 13.35, 13.40, 13.45, 13.50, 13.55, 13.60, 13.65, 13.70	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II

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Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	144 cells: TWMND-72HSxxx (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H-S (xxx = 525-590, in increment of 5) 144 cells: TWMND-72HBxxx (xxx = 525-590, in increment of 5) 144 cells: TWxxxMGT-144-H-F (xxx = 525-590, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h	2278±2 x 1134±2 x 35/30 2278±2 x 1140±2 x 35/30		
Rated Pmpp [W].....	525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	50.60, 50.80, 51.00, 51.20, 51.40, 51.60, 51.80, 52.00, 52.20, 52.40, 52.60, 52.80 , 53.00, 53.20	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.06, 13.10, 13.14, 13.18, 13.22, 13.26, 13.30, 13.34, 13.38, 13.42, 13.46, 13.50, 13.54, 13.58	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	144 cells: TWMNG-72HSxxx (xxx = 585-625, in increment of 5) 144 cells: TWMNG-72HBxxx (xxx = 585-625, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h	2382±4 x 1134±2 x 30 / 35		
Rated Pmpp [W].....	585, 590, 595, 600, 605, 610, 615, 620, 625	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	51.15, 51.35, 51.55, 51.75, 51.95, 52.15, 52.35, 52.55, 52.75	Tolerance of rated Voc [%]	±3

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Rated Isc [A]	14.30, 14.35, 14.40, 14.45, 14.50, 14.55, 14.60, 14.65, 14.70	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	132 cells: TWMND-66HSxxx (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H-S (xxx = 485-540, in increment of 5) 132 cells: TWMND-66HBxxx (xxx = 485-540, in increment of 5) 132 cells: TWxxxMGT-132-H-F (xxx = 485-540, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h	2093±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.56, 46.76, 46.96, 47.16, 47.36, 47.56, 47.76, 47.96, 48.16, 48.36, 48.56, 48.76	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.20, 13.24, 13.28, 13.32, 13.36, 13.40, 13.44, 13.48, 13.52, 13.56, 13.60, 13.64	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	132 cells: TWMNH-66HSxxx (xxx = 585-625, in increment of 5) 132 cells: TWMNH-66HBxxx (xxx = 585-625, in increment of 5) for 7" mono cell 19		
Dimensions [mm] / l x w x h	2382±2 x 1134±2 x 35		
Rated Pmpp [W].....	585, 590, 595, 600, 605, 610, 615, 620, 625	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.80, 47.00, 47.20, 47.40, 47.60, 47.80, 48.00, 48.20, 48.40	Tolerance of rated Voc [%].....	±3

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Rated Isc [A]	15.60, 15.65, 15.70, 15.75, 15.80, 15.85, 15.90, 15.95, 16.00	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	10.5	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMND-60HSxxx (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H-S (xxx = 440-490, in increment of 5) 120 cells: TWMND-60HBxxx (xxx = 440-490, in increment of 5) 120 cells: TWxxxMGT-120-H-F (xxx = 440-490, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h	1908±2 x 1134±2 x 35/30 1903±2 x 1134±2 x 35/30		
Rated Pmpp [W].....	440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	42.32, 42.49, 42.66, 42.83, 43.00, 43.17, 43.34, 43.51, 43.68, 43.85, 44.02	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.25, 13.30, 13.35, 13.40, 13.45, 13.50, 13.55, 13.60, 13.65, 13.70, 13.75	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.2	Fuse rating [A]	25
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMNH-60HSxxx (xxx = 530-565, in increment of 5) 120 cells: TWMNH-60HBxxx (xxx = 530-565, in increment of 5) for 7" mono cell 19		
Dimensions [mm] / l x w x h	2172±2 x 1134±2 x 35		
Rated Pmpp [W].....	530, 535, 540, 545, 550, 555, 560, 565	Tolerance of rated Pmpp [%].....	±3

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Rated Voc [V]..... :	42.50, 42.70, 42.90, 43.10, 43.30, 43.50, 43.70, 43.90	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	15.62, 15.67, 15.72, 15.77, 15.82, 15.87, 15.92, 15.97	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	10.5	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	108 cells: TWMND-54HSxxx (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H-S (xxx = 395-440, in increment of 5) 108 cells: TWMND-54HBxxx (xxx = 395-440, in increment of 5) 108 cells: TWxxxMGT-108-H-F (xxx = 395-440, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h :	1722±2 x 1134±2 x 30 / 35 1722±2 x 1140±2 x 30 / 35		
Rated Pmpp [W]..... :	395, 400, 405, 410, 415, 420, 425, 430, 435, 440	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	38.10, 38.25, 38.40, 38.55, 38.70, 38.85, 39.00, 39.15, 39.30, 39.45	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	13.32, 13.37, 13.42, 13.47, 13.52, 13.57, 13.62, 13.67, 13.72, 13.77	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.6	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	108 cells: TWMNG-54HSxxx (xxx = 435-465, in increment of 5) 108 cells: TWMNG-54HBxxx (xxx = 435-465, in increment of 5) for 7" mono cell 16		
Dimensions [mm] / l x w x h :	1800±2 x 1134±2 x 30 / 35		
Rated Pmpp [W]..... :	435, 440, 445, 450, 455, 460, 465	Tolerance of rated Pmpp [%]..... :	±3

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Rated Voc [V]..... :	38.25, 38.43, 38.61, 38.79, 38.97, 39.15, 39.33	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	14.38, 14.43, 14.48, 14.53, 14.58, 14.63, 14.68	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.2	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative..... :	See remark 3	Safety factor / negative :	1.5

Module type :	96 cells: TWMNH-48HSxxx (xxx = 425-455, in increment of 5) 96 cells: TWMNH-48HBxxx (xxx = 425-455, in increment of 5) for 7" mono cell 19		
Dimensions [mm] / l x w x h :	1762±2 x 1134±2 x 30		
Rated Pmpp [W]..... :	425, 430, 435, 440, 445, 450, 455	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	34.20, 34.38, 34.56, 34.74, 34.92, 35.10, 35.28	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	15.75, 15.81, 15.87, 15.93, 15.99, 16.05, 16.11	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	10.5	Fuse rating [A] :	25
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative..... :	See remark 3	Safety factor / negative :	1.5

PV Modules with Half-cut 8" PERC Mono-crystalline Silicon Solar Cells:

Module type :	132 cells: TWMPF-66HSxxx (xxx = 640-695, in increment of 5) 132 cells: TWxxxMIP-132-H (xxx = 640-695, in increment of 5) 132 cells: TWxxxMIP-132-H-S (xxx = 640-695, in increment of 5) 132 cells: TWMPF-66HBxxx (xxx = 640-695, in increment of 5) 132 cells: TWxxxMIP-132-H-F (xxx = 640-695, in increment of 5) for 8" mono cell 15		
Dimensions [mm] / l x w x h :	2384±2 x 1303±2 x 35		
Rated Pmpp [W]..... :	640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695	Tolerance of rated Pmpp [%]..... :	±3

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Rated Voc [V]..... :	44.80, 45.00, 45.20, 45.40, 45.60, 45.80, 46.00, 46.20, 46.40, 46.60, 46.80, 47.00	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	18.36, 18.41, 18.46, 18.50, 18.55, 18.60, 18.65, 18.70, 18.75, 18.80, 18.85, 18.90	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	12.0	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	132 cells: TWMPF-66HSxxx (xxx = 640-670, in increment of 5) 132 cells: TWxxxMCP-132-H (xxx = 640-670, in increment of 5) 132 cells: TWxxxMCP-132-H-S (xxx = 640-670, in increment of 5) 132 cells: TWMPF-66HBxxx (xxx = 640-670, in increment of 5) 132 cells: TWxxxMCP-132-H-F (xxx = 640-670, in increment of 5) for 8" mono cell 14		
Dimensions [mm] / l x w x h	2384±2 x 1303±2 x 35		
Rated Pmpp [W]..... :	640, 645, 650, 655, 660, 665, 670	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	44.80, 45.00, 45.20, 45.40, 45.60, 45.80, 46.00	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	18.36, 18.41, 18.46, 18.50, 18.55, 18.60, 18.65	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	12.0	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMPF-60HSxxx (xxx = 580-630, in increment of 5) 120 cells: TWxxxMIP-120-H (xxx = 580-630, in increment of 5) 120 cells: TWxxxMIP-120-H-S (xxx = 580-630, in increment of 5) 120 cells: TWMPF-60HBxxx (xxx = 580-630, in increment of 5) 120 cells: TWxxxMIP-120-H-F (xxx = 580-630, in increment of 5) for 8" mono cell 15		
Dimensions [mm] / l x w x h	2172±2 x 1303±2 x 35		

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Rated Pmpp [W]..... :	580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	40.65, 40.85, 41.05, 41.25, 41.45, 41.65, 41.85, 42.05, 42.25, 42.45, 42.65	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	18.34, 18.40, 18.45, 18.50, 18.55, 18.61, 18.66, 18.71, 18.76, 18.81, 18.86	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMPF-60HSxxx (xxx = 580-610, in increment of 5) 120 cells: TWxxxMCP-120-H (xxx = 580-610, in increment of 5) 120 cells: TWxxxMCP-120-H-S (xxx = 580-610, in increment of 5) 120 cells: TWMPF-60HBxxx (xxx = 580-610, in increment of 5) 120 cells: TWxxxMCP-120-H-F (xxx = 580-610, in increment of 5) for 8" mono cell 14		
Dimensions [mm] / l x w x h	2172±2 x 1303±2 x 35		
Rated Pmpp [W]..... :	580, 585, 590, 595, 600, 605, 610	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	40.65, 40.85, 41.05, 41.25, 41.45, 41.65, 41.85	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	18.34, 18.40, 18.45, 18.50, 18.55, 18.61, 18.66	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	108 cells: TWMPF-54HSxxx (xxx = 525-565, in increment of 5) 108 cells: TWxxxMIP-108-H (xxx = 525-565, in increment of 5) 108 cells: TWxxxMIP-108-H-S (xxx = 525-565, in increment of 5) 108 cells: TWMPF-54HBxxx (xxx = 525-565, in increment of 5) 108 cells: TWxxxMIP-108-H-F (xxx = 525-565, in increment of 5)		
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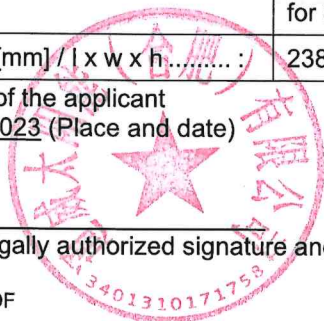
	for 8" mono cell 15		
Dimensions [mm] / l x w x h	1960±2 x 1303±2 x 35/30		
Rated Pmpp [W].....	525, 530, 535, 540, 545, 550, 555, 560, 565	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	36.77, 36.94, 37.11, 37.28, 37.45, 37.62, 37.79, 37.96, 38.13	Tolerance of rated Voc [%]	±3
Rated Isc [A]	18.30, 18.35, 18.40, 18.45, 18.50, 18.55, 18.60, 18.65, 18.70	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	108 cells: TWMPF-54HSxxx (xxx = 525-545, in increment of 5) 108 cells: TWxxxMCP-108-H (xxx = 525-545, in increment of 5) 108 cells: TWxxxMCP-108-H-S (xxx = 525-545, in increment of 5) 108 cells: TWMPF-54HBxxx (xxx = 525-545, in increment of 5) 108 cells: TWxxxMCP-108-H-F (xxx = 525-545, in increment of 5) for 8" mono cell 14		
Dimensions [mm] / l x w x h	1960±2 x 1303±2 x 35/30		
Rated Pmpp [W].....	525, 530, 535, 540, 545	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	36.77, 36.94, 37.11, 37.28, 37.45	Tolerance of rated Voc [%]	±3
Rated Isc [A]	18.30, 18.35, 18.40, 18.45, 18.50	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	110 cells: TWMPF-55HSxxx (xxx = 535-580, in increment of 5) 110 cells: TWxxxMIP-110-H (xxx = 535-580, in increment of 5) 110 cells: TWxxxMIP-110-H-S (xxx = 535-580, in increment of 5) 110 cells: TWMPF-55HBxxx (xxx = 535-580, in increment of 5) 110 cells: TWxxxMIP-110-H-F (xxx = 535-580, in increment of 5) for 8" mono cell 15		
Dimensions [mm] / l x w x h	2384±2 x 1096±2 x 35		

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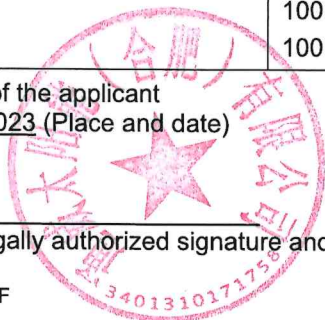
Rated Pmpp [W]..... :	535, 540, 545, 550, 555, 560, 565, 570, 575, 580	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	37.30, 37.50, 37.70, 37.90, 38.10, 38.30, 38.50, 38.70, 38.90, 39.10	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	18.36, 18.41, 18.47, 18.52, 18.56, 18.60, 18.64, 18.68, 18.72, 18.76	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.3	Fuse rating [A] :	30
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	110 cells: TWMPF-55HSxxx (xxx = 535-580, in increment of 5) 110 cells: TWxxxMCP-110-H (xxx = 535-580, in increment of 5) 110 cells: TWxxxMCP-110-H-S (xxx = 535-580, in increment of 5) 110 cells: TWMPF-55HBxxx (xxx = 535-580, in increment of 5) 110 cells: TWxxxMCP-110-H-F (xxx = 535-580, in increment of 5) for 8" mono cell 14		
Dimensions [mm] / l x w x h :	2384±2 x 1096±2 x 35		
Rated Pmpp [W]..... :	535, 540, 545, 550, 555, 560, 565, 570, 575, 580	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	37.30, 37.50, 37.70, 37.90, 38.10, 38.30, 38.50, 38.70, 38.90, 39.10	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A] :	18.36, 18.41, 18.47, 18.52, 18.56, 18.60, 18.64, 18.68, 18.72, 18.76	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm] :	12.3	Fuse rating [A] :	30
Design load [Pa] / positive :	See remark 3	Safety factor / positive :	1.5
Design load [Pa] / negative :	See remark 3	Safety factor / negative :	1.5

Module type :	100 cells: TWMPF-50HSxxx (xxx = 485-525, in increment of 5) 100 cells: TWxxxMIP-100-H (xxx = 485-525, in increment of 5) 100 cells: TWxxxMIP-100-H-S (xxx = 485-525, in increment of 5) 100 cells: TWMPF-50HBxxx (xxx = 485-525, in increment of 5)		
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Confirmation of the applicant
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Shanghai, 12/13/2023 (Place and date)



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	100 cells: TWxxxMIP-100-H-F (xxx = 485-525, in increment of 5) for 8" mono cell 15		
Dimensions [mm] / l x w x h	2172±2 x 1096±2 x 35		
Rated Pmpp [W].....	485, 490, 495, 500, 505, 510, 515, 520, 525	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	33.87, 34.04, 34.21, 34.38, 34.55, 34.72, 34.89, 35.06, 35.23	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	18.30, 18.35, 18.40, 18.45, 18.50, 18.55, 18.60, 18.65, 18.70	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	100 cells: TWMPF-50HSxxx (xxx = 485-525, in increment of 5) 100 cells: TWxxxMCP-100-H (xxx = 485-525, in increment of 5) 100 cells: TWxxxMCP-100-H-S (xxx = 485-525, in increment of 5) 100 cells: TWMPF-50HBxxx (xxx = 485-525, in increment of 5) 100 cells: TWxxxMCP-100-H-F (xxx = 485-525, in increment of 5) for 8" mono cell 14		
Dimensions [mm] / l x w x h	2172±2 x 1096±2 x 35		
Rated Pmpp [W].....	485, 490, 495, 500, 505, 510, 515, 520, 525	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	33.87, 34.04, 34.21, 34.38, 34.55, 34.72, 34.89, 35.06, 35.23	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	18.30, 18.35, 18.40, 18.45, 18.50, 18.55, 18.60, 18.65, 18.70	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:

Module type	132 cells: TWMNF-66HSxxx (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H-S (xxx = 650-700, in increment of 5)		
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Shanghai, 12/13/2023 (Place and date)



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	132 cells: TWMNF-66HBxxx (xxx = 650-700, in increment of 5) 132 cells: TWxxxMIT-132-H-F (xxx = 650-700, in increment of 5) for 8" mono cell 17		
Dimensions [mm] / l x w x h	2384±2 x 1303±2 x 35		
Rated Pmpp [W].....	650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	46.10, 46.30, 46.50, 46.70, 46.90, 47.10, 47.30, 47.50, 47.70, 47.90, 48.10	Tolerance of rated Voc [%]	±3
Rated Isc [A]	18.04, 18.08, 18.12, 18.16, 18.20, 18.24, 18.28, 18.32, 18.36, 18.40, 18.44	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.0	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	120 cells: TWMNF-60HSxxx (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H-S (xxx = 590-635, in increment of 5) 120 cells: TWMNF-60HBxxx (xxx = 590-635, in increment of 5) 120 cells: TWxxxMIT-120-H-F (xxx = 590-635, in increment of 5) for 8" mono cell 17		
Dimensions [mm] / l x w x h	2172±2 x 1303±2 x 35		
Rated Pmpp [W].....	590, 595, 600, 605, 610, 615, 620, 625, 630, 635	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	41.90, 42.10, 42.30, 42.50, 42.70, 42.90, 43.10, 43.30, 43.50, 43.70	Tolerance of rated Voc [%]	±3
Rated Isc [A]	18.03, 18.07, 18.11, 18.15, 18.19, 18.23, 18.27, 18.31, 18.35, 18.39	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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Module type	108 cells: TWMNF-54HSxxx (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H-S (xxx = 530-570, in increment of 5) 108 cells: TWMNF-54HBxxx (xxx = 530-570, in increment of 5) 108 cells: TWxxxMIT-108-H-F (xxx = 530-570, in increment of 5) for 8" mono cell 17		
Dimensions [mm] / l x w x h	1960±2 x 1303±2 x 35/30		
Rated Pmpp [W].....	530, 535, 540, 545, 550, 555, 560, 565, 570	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	38.06, 38.23, 38.40, 38.57, 38.74, 38.91, 39.08, 39.25, 39.42	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	17.98, 18.03, 18.08, 18.13, 18.18, 18.23, 18.28, 18.33, 18.38	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

Module type	110 cells: TWMNF-55HSxxx (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H-S (xxx = 540-580, in increment of 5) 110 cells: TWMNF-55HBxxx (xxx = 540-580, in increment of 5) 110 cells: TWxxxMIT-110-H-F (xxx = 540-580, in increment of 5) for 8" mono cell 17		
Dimensions [mm] / l x w x h	2384±2 x 1096±2 x 35		
Rated Pmpp [W].....	540, 545, 550, 555, 560, 565, 570, 575, 580	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	38.25, 38.45, 38.65, 38.85, 39.05, 39.25, 39.45, 39.65, 39.85	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	18.14, 18.18, 18.22, 18.26, 18.30, 18.34, 18.38, 18.42, 18.46	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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Module type	100 cells: TWMNF-50HSxxx (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H-S (xxx = 490-530, in increment of 5) 100 cells: TWMNF-50HBxxx (xxx = 490-530, in increment of 5) 100 cells: TWxxxMIT-100-H-F (xxx = 490-530, in increment of 5) for 8" mono cell 17		
Dimensions [mm] / l x w x h	2172±2 x 1096±2 x 35		
Rated Pmpp [W].....	490, 495, 500, 505, 510, 515, 520, 525, 530	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	34.78, 34.96, 35.14, 35.32, 35.50, 35.68, 35.86, 36.04, 36.22	Tolerance of rated Voc [%]	±3
Rated Isc [A]	18.10, 18.15, 18.20, 18.25, 18.30, 18.35, 18.40, 18.45, 18.50	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	12.3	Fuse rating [A]	30
Design load [Pa] / positive	See remark 3	Safety factor / positive	1.5
Design load [Pa] / negative	See remark 3	Safety factor / negative	1.5

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Copy of marking plate:

<p>TW SOLAR 地面用晶硅光伏组件 光伏改变世界</p> <p>组件型号: ##### 最大功率(Pm): #### 开路电压(Voc): ### 短路电流(Isc): ## 最大功率点电压(Vm): ## 最大功率点电流(Imp): ## 重量: ## 尺寸: #####X#####X#####</p> <p>最大保险丝额定电流: 20A 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3% 标准测试条件: 1000W/m², 25°C, AM1.5 生产依据标准: IEC61215&IEC61730 组件防火等级: Class C 最大系统电压: ### 组件等级: Class II</p> <p>警告-电气危险 组件在光照条件下能产生电能, 需遵循所有适用的电气安全防护措施。</p> <p>CE □ TÜV NORD </p> <p>XX/XX 通威太阳能(合肥)有限公司 地址: 安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com 中国制造</p>	<p>TW SOLAR PV Changes the World</p> <p>Module Type: ##### Maximum Power(Pm): #### Open Circuit Voltage(Voc): ### Short Circuit Current(Isc): ## Maximum Power Voltage(Vm): ## Maximum Power Current(Imp): ## Weight: ## Dimensions: #####X#####X#####</p> <p>Series Fuse Rating: 20A Tolerance of Pm: 0~+5W Measuring uncertainty of Pm: ±3% Tolerance of Voc: ±3% Tolerance of Isc: ±3% Standard Test Conditions: 1000W/m², 25°C, AM1.5 Produced in accordance with: IEC 61215 & IEC 61730 Fire Rating/Module Fire Performance: Class C MAX.System Voltage: ### Module Protection: Class II</p> <p>CE □ TÜV NORD </p> <p>XX/XX Tongwei Solar(Hefei) Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei,Anhui,P.R.China www.tw-solar.com Made in China</p>
<p>TW SOLAR 地面用晶硅光伏组件 光伏改变世界</p> <p>组件型号: ##### 最大功率(Pm): #### 开路电压(Voc): ### 短路电流(Isc): ## 最大功率点电压(Vm): ## 最大功率点电流(Imp): ## 重量: ## 尺寸: #####X#####X#####</p> <p>最大保险丝额定电流: 20A 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3% 标准测试条件: 1000W/m², 25°C, AM1.5 生产依据标准: IEC 61215:2016 & IEC 61730:2016 组件防火等级: Class C 最大系统电压: ### 组件等级: Class II</p> <p>警告-电气危险 组件在光照条件下能产生电能, 需遵循所有适用的电气安全防护措施。</p> <p>CE □ TÜV NORD </p> <p>XX/XX 通威太阳能(合肥)有限公司 地址: 安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com 中国制造</p>	<p>TW SOLAR PV Changes the World</p> <p>Module Type: ##### Maximum Power(Pm): #### Open Circuit Voltage(Voc): ### Short Circuit Current(Isc): ## Maximum Power Voltage(Vm): ## Maximum Power Current(Imp): ## Weight: ## Dimensions: #####X#####X#####</p> <p>Series Fuse Rating: 20A Tolerance of Pm: 0~+5W Measuring uncertainty of Pm: ±3% Tolerance of Voc: ±3% Tolerance of Isc: ±3% Standard Test Conditions: 1000W/m², 25°C, AM1.5 Produced in accordance with: IEC 61215:2016 & IEC 61730:2016 Fire Rating/Module Fire Performance: Class C MAX.System Voltage: ### Module Protection: Class II</p> <p>CE □ TÜV NORD </p> <p>XX/XX Tongwei Solar(Hefei) Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei,Anhui,P.R.China www.tw-solar.com Made in China</p>

Confirmation of the applicant
 Hefei, 12/13/2023 (Place and date)



(Applicant's legally authorized signature and stamp)

Confirmation of TÜV NORD CERT
 Shanghai, 12/13/2023 (Place and date)

Carra Chen

(Signature of authorized TÜV NORD CERT engineer)

<p>地面用晶硅光伏组件 光伏改变世界</p> <p>组件型号: #####-## 最大功率(Pm): #### 开路电压(Voc): ###.### 短路电流(Isc): ##.### 最大功率点电压(Vm): ##.### 最大功率点电流(Imp): ##.### 重量: ##.### 尺寸: #####X#####X#####</p> <p>最大保险丝额定电流: ### 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3% 标准测试条件: 1000W/m², 25°C, AM1.5 生产依据标准: IEC 61215:2016 & IEC 61730:2016 组件防火等级: Class C 最大系统电压: ### 组件等级: Class II</p> <p>警告-电气危险 组件在光照条件下能产生电能, 需遵循所有适用的电气安全防护措施。</p> <p>XX 通威太阳能(合肥)有限公司 地址: 安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com 中国制造</p>	<p>PV Changes the World</p> <p>Module Type: #####-## Maximum Power(Pm): #### Open Circuit Voltage(Voc): ###.### Short Circuit Current(Isc): ##.### Maximum Power Voltage(Vm): ##.### Maximum Power Current(Imp): ##.### Weight: ##.### Dimensions: #####X#####X#####</p> <p>Series Fuse Rating: ### Tolerance of Pm: 0~+5W Measuring uncertainty of Pm: ±3% Tolerance of Voc: ±3% Tolerance of Isc: ±3% Standard Test Conditions: 1000W/m², 25°C, AM1.5 Produced in accordance with: IEC 61215:2016 & IEC 61730:2016 Fire Rating/Module Fire Performance: Class C MAX.System Voltage: ###kV Module Protection: Class II</p> <p>Tongwei Solar(Hefei) Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei,Anhui,P.R.China www.tw-solar.com Made in China</p>
<p>通威太阳能(合肥)有限公司 地址:安徽省合肥市高新区长宁大道888号 网址:www.tw-solar.com 中国制造</p> <p>标准测试条件: 1000W/m², 25°C, AM1.5 正面测试 生产依据标准: IEC61215&IEC61730 组件防火等级: Class C 最大系统电压: 1500V 组件等级: Class II</p> <p>XX/XX 光伏改变世界</p>	<p>地面用晶硅光伏组件</p> <p>组件型号: #####-## 最大功率(Pm): #### 开路电压(Voc): ###.### 短路电流(Isc): ##.### 最大功率点电压(Vm): ##.### 最大功率点电流(Imp): ##.### 重量: ##.### 尺寸: #####X#####X#####</p> <p>最大保险丝额定电流: 20A 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3%</p>
<p>Tongwei Solar(Hefei)Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei,Anhui,P.R.China www.tw-solar.com Made in China</p> <p>Standard Test Conditions: 1000W/m², 25°C, AM1.5, Positive Test Produced in accordance with: IEC61215&IEC61730 Fire Rating/Module Fire Performance: Class C MAX.System Voltage: 1500V PV Module Classification: Class II</p> <p>XX/XX PV Changes the World</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-## Maximum Power(Pm): #### Open Circuit Voltage(Voc): ###.### Short Circuit Current(Isc): ##.### Maximum Power Voltage(Vm): ##.### Maximum Power Current(Imp): ##.### Weight: ##.### Dimensions: #####X#####X#####</p> <p>Series Fuse Rating: 20A Power Selection: 0~+5W Power Production Tolerance: ±3% Tolerance of Voc: ±3% Tolerance of Isc: ±3%</p>
<p>通威太阳能(合肥)有限公司 地址:安徽省合肥市高新区长宁大道888号 网址:www.tw-solar.com 中国制造</p> <p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试 生产依据标准: IEC 61215 : 2016 & IEC 61730 : 2016 组件防火等级: Class C 最大系统电压: 1500V 组件等级: Class II</p> <p>XX/XX 光伏改变世界</p>	<p>地面用晶硅光伏组件</p> <p>组件型号: #####-## 最大功率(Pm): #### 开路电压(Voc): ###.### 短路电流(Isc): ##.### 最大功率点电压(Vm): ##.### 最大功率点电流(Imp): ##.### 重量: ##.### 尺寸: #####X#####X#####</p> <p>最大保险丝额定电流: 20A 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3%</p>

Confirmation of the applicant
Hefei, 12/13/2023 (Place and date)

(Applicant's legally authorized signature and stamp)



Confirmation of TÜV NORD CERT
Shanghai, 12/13/2023 (Place and date)

(Signature of authorized TÜV NORD CERT engineer)

Carra Chen

<p>Tongwei Solar(Hefei)Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei, Anhui,P.R.China www.tw-solar.com Made in China</p> <p>Standard Test Conditions: 1000W/m², 25°C, AM1.5, Positive Test Produced in accordance with: IEC 61215 : 2016 & IEC 61730 : 2016 Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V PV Module Classification: Class II</p> <p>XX/XX PV Changes the World</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-####</p> <p>Maximum Power(Pm): #####</p> <p>Open Circuit Voltage(Voc): ###.##</p> <p>Short Circuit Current(Isc): ##.###</p> <p>Maximum Power Voltage(Vm): ##.###</p> <p>Maximum Power Current(I_m): ##.###</p> <p>Weight: #####</p> <p>Dimensions: #####</p> <p>Series Fuse Rating: 20A</p> <p>Power Selection: 0~+5W</p> <p>Power Production Tolerance: ±3%</p> <p>Tolerance of Voc: ±3%</p> <p>Tolerance of Isc: ±3%</p>		
<p>通威太阳能(合肥)有限公司 地址:安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com 中国制造</p> <p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试 生产依据标准: IEC 61215 : 2016 & IEC 61730 : 2016 组件防火等级: Class C 最大系统电压: 1500V 组件等级: Class II</p> <p>XX/XX 光伏改变世界</p>	<p>地面用晶硅光伏组件</p> <p>组件型号: #####-####</p> <p>最大功率(Pm): #####</p> <p>开路电压(Voc): ###.##</p> <p>短路电流(Isc): ##.###</p> <p>最大功率点电压(Vm): ##.###</p> <p>最大功率点电流(I_m): ##.###</p> <p>重量: #####</p> <p>尺寸: #####</p> <p>最大保险丝额定电流: 20A</p> <p>功率分档: 0~+5W</p> <p>最大功率公差: ±3%</p> <p>开路电压公差: ±3%</p> <p>短路电流公差: ±3%</p>		
<p>Tongwei Solar(Hefei)Co.,Ltd. Add:NO.888 Changning Road,High-tech District,Hefei, Anhui,P.R.China www.tw-solar.com Made in China</p> <p>Standard Test Conditions: 1000W/m², 25°C, AM1.5, Positive Test Produced in accordance with: IEC 61215 : 2016 & IEC 61730 : 2016 Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V PV Module Classification: Class II</p> <p>XX/XX PV Changes the World</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-####</p> <p>Maximum Power(Pm): #####</p> <p>Open Circuit Voltage(Voc): ###.##</p> <p>Short Circuit Current(Isc): ##.###</p> <p>Maximum Power Voltage(Vm): ##.###</p> <p>Maximum Power Current(I_m): ##.###</p> <p>Weight: #####</p> <p>Dimensions: #####</p> <p>Series Fuse Rating: 20A</p> <p>Power Selection: 0~+5W</p> <p>Power Production Tolerance: ±3%</p> <p>Tolerance of Voc: ±3%</p> <p>Tolerance of Isc: ±3%</p>		
<p>通威太阳能(合肥)有限公司 中国制造</p>	<p>地面用晶硅光伏组件</p> <p>组件型号: #####-####</p> <p>最大功率(Pm) (±3%): #####</p> <p>开路电压(Voc) (±3%): ###.##</p> <p>短路电流(Isc) (±3%): ##.###</p> <p>最大功率点电压(Vm): ##.###</p> <p>最大功率点电流(I_m): ##.###</p> <p>XX/XX 光伏改变世界</p>	<p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试 功率分档: 0~+5W 组件防火等级: Class C 最大系统电压: 1500V 生产依据标准: IEC 61215:2016 & IEC 61730:2016 组件等级: Class II 最大保险丝额定电流: 30A</p> <p>地址: 安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com</p>	
<p>Tongwei Solar(Hefei)Co.,Ltd. Made in China</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-####</p> <p>Maximum Power(Pm)(±3%): #####</p> <p>Open Circuit Voltage(Voc)(±3%): ###.##</p> <p>Short Circuit Current(Isc)(±3%): ##.###</p> <p>Maximum Power Voltage(Vm): ##.###</p> <p>Maximum Power Current(I_m): ##.###</p> <p>XX/XX PV Changes the World</p>	<p>STC: 1000W/m², 25°C, AM1.5, Positive Test Power Selection: 0~+5W Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V According to: IEC 61215:2016 & IEC 61730:2016 Module Classification: Class II Series Fuse Rating: 30A</p> <p>www.tw-solar.com Add:NO.888 Changning Road,High-tech District,Hefei, Anhui,P.R.China</p>	
<p>通威太阳能(合肥)有限公司 中国制造</p>	<p>地面用晶硅光伏组件</p> <p>组件型号: #####-####</p> <p>最大功率(Pm) (±3%): #####</p> <p>开路电压(Voc) (±3%): ###.##</p> <p>短路电流(Isc) (±3%): ##.###</p> <p>最大功率点电压(Vm): ##.###</p> <p>最大功率点电流(I_m): ##.###</p> <p>XX/XX 光伏改变世界</p>	<p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试 功率分档: 0~+5W 组件防火等级: Class C 最大系统电压: 1500V 生产依据标准: IEC 61215:2016 & IEC 61730:2016 组件等级: Class II 最大保险丝额定电流: 30A</p> <p>地址: 安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com</p>	
<p>Tongwei Solar(Hefei)Co.,Ltd. Made in China</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-####</p> <p>Maximum Power(Pm)(±3%): #####</p> <p>Open Circuit Voltage(Voc)(±3%): ###.##</p> <p>Short Circuit Current(Isc)(±3%): ##.###</p> <p>Maximum Power Voltage(Vm): ##.###</p> <p>Maximum Power Current(I_m): ##.###</p> <p>XX/XX PV Changes the World</p>	<p>STC: 1000W/m², 25°C, AM1.5, Positive Test Power Selection: 0~+5W Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V According to: IEC 61215:2016 & IEC 61730:2016 Module Classification: Class II Series Fuse Rating: 30A</p> <p>www.tw-solar.com Add:NO.888 Changning Road,High-tech District,Hefei, Anhui,P.R.China</p>	



Confirmation of the applicant
Hefei, 12/13/2023 (Place and date)

Confirmation of TÜV NORD CERT
Shanghai, 12/13/2023 (Place and date)

Carra Chen

(Applicant's legally authorized signature and stamp)

(Signature of authorized TÜV NORD CERT engineer)

<p>Tongwei Solar(Hefei)Co.,Ltd.</p> <p>Made in China</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-##</p> <p>Maximum Power (Pm)(±3%): ####</p> <p>Open Circuit Voltage(Voc)(±3%): ####</p> <p>Short Circuit Current(Isc)(±3%): ####</p> <p>Maximum Power Voltage(Vm): ####</p> <p>Maximum Power Current(I_m): ####</p> <p>XX/XX PV Changes the World</p>	<p>STC: 1000W/m², 25°C, AM1.5, Positive Test</p> <p>Power Selection: 0~+5W</p> <p>Fire Rating/Module Fire Performance: Class C</p> <p>MAX. System Voltage: 1500V</p> <p>According to: IEC 61215:2016 & IEC 61730:2016</p> <p>Module Classification: Class II</p> <p>Series Fuse Rating: ##</p> <p>Add.:NO.888, Changning Road, High-tech District, Hefei, Anhui, P.R.China</p>	
<p>Tongwei Solar(Hefei)Co.,Ltd.</p> <p>Made in China</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-##</p> <p>Maximum Power (Pm) with tolerance ±3%: ####</p> <p>Open Circuit Voltage(Voc) with tolerance ±3%: ####</p> <p>Short Circuit Current(Isc) with tolerance ±3%: ####</p> <p>Maximum Power Voltage(Vm): ####</p> <p>Maximum Power Current(I_m): ####</p> <p>XX/XX PV Changes the World</p>	<p>STC: 1000W/m², 25°C, AM1.5, Positive Test</p> <p>Power Selection: 0~+5W</p> <p>Fire Rating/Module Fire Performance: Class C</p> <p>MAX. System Voltage: 1500V</p> <p>According to: IEC 61215:2016 & IEC 61730:2016</p> <p>Module Classification: Class II</p> <p>Series Fuse Rating: ##</p> <p>Add.:NO.888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R. China</p>	
<p>Tongwei Solar(Hefei) Co., Ltd.</p> <p>PV Changes the World</p> <p>Module Type: #####-##</p> <p>Maximum Power(Pm): ####</p> <p>Open Circuit Voltage(Voc): ####</p> <p>Short Circuit Current(Isc): ####</p> <p>Maximum Power Voltage(Vm): ####</p> <p>Maximum Power Current(I_m): ####</p> <p>Weight: ##.###</p> <p>Dimensions: #####X#####X####</p> <p>Series Fuse Rating: 20A</p> <p>Power Selection: 0~+5W</p> <p>Tolerance of Pm: ±3%</p> <p>Tolerance of Voc: ±3%</p> <p>Tolerance of Isc: ±3%</p> <p>Standard Test Conditions: 1000W/m², 25°C, AM1.5</p> <p>Produced in accordance with: IEC 61215:2016 & IEC 61730:2016</p> <p>Fire Rating/Module Fire Performance: Class C</p> <p>MAX. System Voltage: ###V</p> <p>Module Protection: Class II</p> <p>Tongwei Solar(Hefei) Co., Ltd.</p> <p>xx/xx Add: NO. 888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R.China</p> <p>www.tw-solar.com Made in China</p>			
<p>Shingled Module</p> <p>#####</p> <p>PV changes the World Tongwei for better life</p> <p>Module Type: #####-##</p> <p>Maximum Power(Pm): ####</p> <p>Open Circuit Voltage(Voc): ####</p> <p>Short Circuit Current(Isc): ####</p> <p>Maximum Power Voltage(Vm): ####</p> <p>Maximum Power Current(I_m): ####</p> <p>Power Selection: 0~+5W</p> <p>Fire Rating: Class C</p> <p>MAX. System Voltage: 1500V</p> <p>Module Classification: Class II</p> <p>Series Fuse Rating: ##</p> <p>Dimensions: #####</p> <p>STC: 1000W/m², 25°C, AM1.5</p> <p>According to: IEC 61215:2016 & IEC 61730:2016</p> <p>Made in China</p> <p>Tongwei Solar(Hefei) Co., Ltd.</p> <p>Add: NO. 888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R. China</p> <p>www.tw-solar.com</p>			
<p>Tongwei Solar(Hefei)Co.,Ltd.</p> <p>Made in China</p>	<p>Crystalline Silicon Terrestrial Photovoltaic (PV) Modules</p> <p>Module Type: #####-##</p> <p>Maximum Power (Pm)(±3%): ####</p> <p>Open Circuit Voltage(Voc)(±3%): ####</p> <p>Short Circuit Current(Isc)(±3%): ####</p> <p>Maximum Power Voltage(Vm): ####</p> <p>Maximum Power Current(I_m): ####</p> <p>##### PV Changes the World</p>	<p>STC: 1000W/m², 25°C, AM1.5, Positive Test</p> <p>Power Selection: 0~+5W</p> <p>Fire Rating/Module Fire Performance: Class C</p> <p>MAX. System Voltage: 1500V</p> <p>According to: IEC 61215:2016 & IEC 61730:2016</p> <p>Module Classification: Class II</p> <p>Series Fuse Rating: ##</p> <p>Add.:NO.888, Changning Road, High-tech District, Hefei, Anhui, P.R.China</p>	
<p>通威太阳能(合肥)有限公司</p> <p>中国制造</p>	<p>地面用晶体硅光伏组件</p> <p>组件型号: #####-##-##</p> <p>最大功率 (P_m) (±3%): ####</p> <p>开路电压 (V_{oc}) (±3%): ####</p> <p>短路电流 (I_{sc}) (±3%): ####</p> <p>最大功率点电压 (V_m): ####</p> <p>最大功率点电流 (I_m): ####</p> <p>##### 光伏改变世界</p>	<p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试</p> <p>功率分档: 0~+5W</p> <p>组件防火等级: Class C</p> <p>最大系统电压: 1500V</p> <p>生产依据标准: IEC61215:2016 & IEC61730:2016</p> <p>组件等级: Class II</p> <p>最大保险丝额定电流: ##</p> <p>地址: 安徽省合肥市高新区长宁大道888号</p> <p>网址: www.tw-solar.com</p>	
<p>通威太阳能(合肥)有限公司</p> <p>条码: #####</p> <p>生产日期: #####</p> <p>中国制造</p>	<p>地面用晶体硅光伏组件</p> <p>组件型号: #####-##-##</p> <p>最大功率 (P_m) (±3%): ####</p> <p>开路电压 (V_{oc}) (±3%): ####</p> <p>短路电流 (I_{sc}) (±3%): ####</p> <p>最大功率点电压 (V_m): ####</p> <p>最大功率点电流 (I_m): ####</p> <p>##### 光伏改变世界</p>	<p>标准测试条件: 1000W/m², 25°C, AM1.5, 正面测试</p> <p>功率分档: 0~+5W</p> <p>组件防火等级: Class C</p> <p>最大系统电压: 1500V</p> <p>生产依据标准: IEC61215:2016 & IEC61730:2016</p> <p>组件等级: Class II</p> <p>最大保险丝额定电流: ##</p> <p>地址: 安徽省合肥市高新区长宁大道888号</p> <p>网址: www.tw-solar.com</p>	

Confirmation of the applicant
Hefei, 12/13/2023 (Place and date)

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Shanghai, 12/13/2023 (Place and date)

Carra Chen

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PV Changes the World Module Type: #####-##### Maximum Power(Pm): #### Open Circuit Voltage(Voc): ##.### Short Circuit Current(Isc): ##.### Maximum Power Voltage(Vm): ##.### Maximum Power Current(I_m): ##.### Weight: ##.### Dimensions: #####X#####X##### Series Fuse Rating: ### Tolerance of P_m: 0~+5W Measuring uncertainty of P_m: ±3% Tolerance of Voc: ±3% Tolerance of Isc: ±3% Standard Test Conditions: 1000W/m ² , 25°C, AM1.5 Produced in accordance with: IEC 61215:2016 & IEC 61730:2016 Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V Module Protection: Class II Tongwei Solar(Hefei) Co.,Ltd. ###/### Add.:NO.888, Changning Road, High-Tech District, Hefei, Anhui, P.R.China www.tw-solar.com Made in China	地面用晶硅光伏组件 光伏改变世界 组件型号: #####-##### 最大功率(P_m): #### 开路电压(Voc): ##.### 短路电流(Isc): ##.### 最大功率点电压(V_m): ##.### 最大功率点电流(I_m): ##.### 重量: ##.### 尺寸: #####X#####X##### 最大保险丝额定电流: ### 功率分档: 0~+5W 最大功率公差: ±3% 开路电压公差: ±3% 短路电流公差: ±3% 标准测试条件: 1000W/m ² , 25°C, AM1.5 生产依据标准: IEC 61215:2016 & IEC 61730:2016 组件防火等级: Class C 最大系统电压: 1500V 组件等级: Class II 警告-电气危险 组件在光照条件下能产生电能, 需遵循所有适用的电气安全防护措施。 通威太阳能(合肥)有限公司 ###/### 地址:安徽省合肥市高新区长宁大道888号 网址: www.tw-solar.com 中国制造	
Tongwei Solar(Hefei) Co., Ltd. ###/### Made in China	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules Module Type: #####-##### Maximum Power(P_m)(±3%): #### Open Circuit Voltage(Voc)(±3%): ##.### Short Circuit Current(Isc)(±3%): ##.### Maximum Power Voltage(V_m): ##.### Maximum Power Current(I_m): ##.### PV Changes the World	STC: 1000W/m ² , 25°C, AM1.5, Positive Test Power Selection: 0~+3% Fire Rating/Module Fire Performance: Class C MAX. System Voltage: 1500V According to: IEC 61215:2016 & IEC 61730:2016 Module Classification: Class II Series Fuse Rating: ### Add.:NO.888, Changning Road, High-tech District, Hefei, Anhui, P.R.China www.tw-solar.com

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List of critical materials and components:

Object	Manufacturer	Type	Technical Data	Remark
Components				
6" mono cell 1#	Tongwei Solar (Chengdu) Co., Ltd.	M1565B (segmented into 5 pieces)	Dimension (w x l) = 156.75mm x 31.35 mm Thickness = 160±30 µm Cell area = 48.44 - 49.15 cm ² Front side: busbar width 1.0±0.1 mm Back side: busbar width 1.2±0.2 mm	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
6" mono cell 2#	Tongwei Solar (Chengdu) Co., Ltd.	M1565B PERC (segmented into 5 pieces)	Dimension (w x l) = 156.75 mm x 31.35 mm Thickness = 160±30 µm Cell area = 48.44 - 49.15 cm ² Pattern 1: Front side: busbar width 0.6±0.1 mm Back side: busbar width 0.7±0.2 mm Pattern 2: Front side: busbar width 0.6±0.1 mm Back side: busbar width 1.0±0.2 mm Pattern 3: Front side: busbar width 0.6±0.1 mm Back side: busbar width 1.2±0.1 mm	Tested with PV modules with pattern 1, 3 Covered by main tested type with pattern 2
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type with pattern 1, 3 Tested with PV modules with pattern 2
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 3#	Tongwei Solar (Chengdu) Co., Ltd.	M1585B PERC (segmented into 5 pieces)	Dimension (w x l) = 158.75mm x 31.75 mm Thickness = 160±30 µm Cell area = 50.40 cm ² Front side: busbar width 0.6±0.1 mm Back side: busbar width 0.7±0.2 mm	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 4#	Tongwei Solar (Chengdu) Co., Ltd.	M1565B PERC bifacial cell (segmented into 5 pieces)	Dimension (w x l) = 156.75mm x 31.35 mm Thickness = 160±30 µm Cell area = 48.44 - 49.15 cm ² Front side: busbar width 0.6±0.1 mm Back side: busbar width 0.8±0.1 mm	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 5#	Tongwei Solar (Chengdu) Co., Ltd.	M1585B PERC bifacial cell (segmente into 5 pieces)	Dimension (w x l) = 158.75mm x 31.75 mm Thickness = 160±30 µm Cell area = 50.40 cm ² Front side: busbar width 0.6±0.1 mm	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type

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Shanghai, 12/13/2023 (Place and date)



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Object	Manufacturer	Type	Technical Data	Remark
	Tongwei Solar (Meishan) Co., Ltd.		Back side: busbar width 0.7±0.1 mm	Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 6#	Tongwei Solar (Chengdu) Co., Ltd.	M1665B PERC (segmented into 5 pieces)	Dimension (w x l) = 166.00mm x 33.20 mm Thickness = 160±30 µm Cell area = 50.41 - 55.11 cm ² Front side: busbar width 0.6±0.1 mm Back side: busbar width 0.8±0.1 mm	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 7#	Tongwei Solar (Chengdu) Co., Ltd.	M1665B PERCBP bifacial cell (segmented into 5 pieces)	Dimension (w x l) = 166.00mm x 33.20 mm Thickness = 160±30 µm Cell area = 50.41 - 55.11 cm ² Front side: busbar width 0.6±0.1 mm Back side: busbar width 1.4±0.1 mm	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
6" mono cell 8#	Tongwei Solar (Chengdu) Co., Ltd.	M1585BPERC BP bifacial cell (segmented into 5 pieces)	Dimension (w x l) = 158.75 mm x 31.75 mm Thickness = 160±16 µm Cell area = 50.40 cm ² Front side: busbar gradient width 0.1 - 0.6 mm Back side: busbar width 1.2 mm (patterned)	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
8" mono cell 9#	Tongwei Solar (Chengdu) Co., Ltd.	M2106BPERC (segmented into 6 pieces)	Dimension (w x l) = 210±0.25 mm x 35±0.25 mm / 210±0.25 mm x 11.67±0.25 mm Thickness = 160±30 µm Cell area = 73.50 cm ² / 24.51cm ² Front side: busbar width 0.1±0.05 mm & 0.15±0.1 mm Back side: busbar width 1.15±0.15 mm (patterned)	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
8" mono cell 10#	Tongwei Solar (Chengdu) Co., Ltd.	M2106BPERC BP bifacial cell (segmented into 6 pieces)	Dimension (w x l) = 210±0.25 mm x 35±0.25 mm / 210±0.25 mm x 11.67±0.25 mm Thickness = 160±30 µm	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
	Tongwei Solar (Anhui) Co., Ltd.		Cell area = 73.50 cm ² / 24.51cm ² Front side: busbar width 0.1±0.05 mm & 0.15±0.1 mm Back side: busbar width 1.15±0.15 mm (patterned)	Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
8" mono cell 11*	Tongwei Solar (Chengdu) Co., Ltd.	M2107BPERC BP bifacial cell (segmented into 7 pieces)	Dimension (w x l) = 210±0.25 mm x 30±0.25 mm / 210±0.25 mm x 11.67±0.25 mm Thickness = 160±30 μm Cell area = 63.00 cm ² / 24.51cm ² Front side: busbar width 0.1±0.05 mm & 0.15±0.1 mm Back side: busbar width 1.15±0.15 mm (patterned)	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
7" mono cell 12*	Tongwei Solar (Chengdu) Co., Ltd.	M182ABPERC BP SE PERC bifacial cell	Dimension (w x l) = 182±3mm x 91±10%mm Thickness = 150±20μm Cell area = 165.62cm ² 10 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy (Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
7" mono cell 13*	Tongwei Solar (Chengdu) Co., Ltd.	M182GBPERC BP SE PERC bifacial cell	Dimension (w x l) =182±3mm x 91±10%mm Thickness = 150±20μm Cell area = 165.62cm ² 16 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy(Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
8" mono cell 14*	Tongwei Solar (Chengdu) Co., Ltd.	M210CBPERC BP PERC bifacial cell	Dimension (w x l) =210±3mm x 105±3mm Thickness = 150±20μm Cell area = 220.5cm ²	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type

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Shanghai, 12/13/2023 (Place and date)

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Object	Manufacturer	Type	Technical Data	Remark
	Tongwei Solar (Anhui) Co., Ltd.		12 Busbars	Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy(Jintang) Co. Ltd			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
8" mono cell 15*	Tongwei Solar (Chengdu) Co., Ltd.	M210IBPERC BP PERC bifacial cell	Dimension (w x l) = 210±3mm x 105±3mm Thickness = 160(+30/-10)µm Cell area = 220.5cm ² 18 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy(Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
7" mono cell 16*	Tongwei Solar (Chengdu) Co., Ltd.	M182GBTCO NBP TOPCon bifacial cell	Dimension (w x l) = 182±3mm x 91±10%mm Thickness = 130±20µm Cell area = 165.62cm ² 16 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy (Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
8" mono cell 17*	Tongwei Solar (Chengdu) Co., Ltd.	M210IBTCON BP TOPCon bifacial cell	Dimension (w x l) = 210±3mm x 105±3mm Thickness = 150±20µm Cell area = 220.5cm ² 18 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
	Tonghe New Energy(Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
7" mono cell 18*	Tongwei Solar (Chengdu) Co., Ltd.	M182AGBPER CBP	Dimension (w x l) = 182±3mm x 105±3mm Thickness = 160+30/-10µm Cell area = 190.92cm ² 16 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.	PERC bifacial cell		Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy(Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
7" mono cell 19*	Tongwei Solar (Chengdu) Co., Ltd.	M182AGBTCO NBP	Dimension (w x l) = 182±3mm x 105±3mm Thickness = 130±20µm Cell area = 190.92cm ² 16 Busbars	Covered by main tested type
	Tongwei Solar (Hefei) Co., Ltd.	TOPCon bifacial cell		Covered by main tested type
	Tongwei Solar (Anhui) Co., Ltd.			Covered by main tested type
	Tongwei Solar (Meishan) Co., Ltd.			Tested with PV modules
	Tongwei Solar (Jintang) Co., Ltd.			Covered by main tested type
	Tonghe New Energy (Jintang) Co. Ltd.			Covered by main tested type
	Tongwei Solar (Pengshan) Co.Ltd.			Covered by main tested type
Front cover 1	CNBM TONGCHENG New Energy Resources Co., Ltd. (China building materials Tong Cheng new energy materials co., Ltd)	AR coating tempered glass	Thickness = 3.2±10% / 2.8±10% mm	Tested with PV modules
Front cover 2	CNBM(HEFEI) New Energy Resources Co., Ltd. (China National Building Materials (Hefei) New Energy Resources Co., Ltd.)	AR coating tempered glass	Thickness = 3.2±10% / 2.8±10% mm	Covered by main tested type
Front cover 3	HNH SANXIN (BENGBU) NEW ENERGY MATERIALS Co., Ltd. (Previous name: AVIC SANXIN SOL-GLASS CO., LTD.)	AR coating tempered glass	Thickness = 3.2±10% mm	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Front cover 4	Flat Glass Group	AR coating tempered glass	Thickness = 3.2±10% / 2.8±10% mm	Tested with PV modules
Front cover 5	Xinyi PV Products (Anhui) Holdings Ltd.	AR coating tempered glass	Thickness = 3.2±10% mm	Tested with PV modules
Front cover 6	Caihong photovoltaic (Hefei) company limited	AR coating tempered glass	Thickness = 3.2±10% mm	Tested with PV modules
Front cover 7	Shu Yang Xin Da New Material Co., Ltd	AR coating tempered glass	Thickness = 3.2±10% / 2.8±10% mm	Tested with PV modules
Front cover 8	Anhui Shengshi New Energy Materials Technology Co., Ltd. CNBM(YIXING) New Energy Resources Co., Ltd. CNBM TONGCHENG New Energy Resources Co., Ltd. CNBM(HEFEI) New Energy Resources Co., Ltd. Triumph (Zigong) New Energy Resources Co., Ltd. TG Fujian Photovoltaic Glass Co., Ltd. Shuyang Xinda New Material Co. Ltd.	AR coating tempered glass	Thickness = 3.2±10% mm	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
Front cover 9	<p>Tongwei Solar (Hefei) Co., Ltd.</p> <p>Manufacturer:</p> <ol style="list-style-type: none"> CNBM TONGCHENG New Energy Resources Co., Ltd. (China building materials Tong Cheng new energy materials co., Ltd) CNBM(HEFEI) New Energy Resources Co., Ltd. (China National Building Materials (Hefei) New Energy Resources Co., Ltd.) HNH SANXIN (BENGBU) NEW ENERGY MATERIALS Co., Ltd. (Previous name: AVIC SANXIN SOL-GLASS CO., LTD.) Flat Glass Group Xinyi PV Products (Anhui) Holdings Ltd. Caihong photovoltaic (Hefei) company limited Shu Yang Xin Da New Material Co., Ltd Anhui Shengshi New Energy Materials Technology Co., Ltd. CNBM(YIXING) New Energy Resources Co., Ltd. Triumph (Zigong) New Energy Resources Co., Ltd. TG Fujian Photovoltaic Glass Co., Ltd. Shuyang Xinda New Material Co. Ltd. ANHUI CSG NEW ENERGY MATERIAL TECHNOLOGY CO.,LTD. Wujun Chongqing Solar Energy Co., Ltd. Jingzhou Nengyao New Material CO., Ltd. 	AR coating tempered glass	Thickness = 3.2±10%mm	Tested with PV modules
Front cover 10	ANHUI CSG NEW ENERGY MATERIAL TECHNOLOGY CO.,LTD.	AR coating tempered glass	Thickness = 3.2±10%mm	Tested with PV modules
Front cover 11	Wujun Chongqing Solar Energy Co., Ltd	AR coating tempered glass	Thickness = 3.2±10%mm	Tested with PV modules
Front cover 12	Jingzhou Nengyao New Material CO., Ltd.	AR coating tempered glass	Thickness = 3.2±10%mm	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Rear cover 1 (Combine with encapsulation material 1, 2, 3, 15, 28, 29) [#]	DSM SunShine Solar Technology (Suzhou) Co., Ltd. (Former name: Suzhou Sunshine New Materials Technology Co., Ltd.)	MP Sheet PF B12 (AnarMat 1500A)	Thickness = 0.46 ± 10% mm Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white or black	Tested with PV modules Certificate no. R 50325133 CTI report no. 2016DACS00341 issued by CPVT
Rear cover 2 (Combine with encapsulation material 1, 2, 3, 4, 5, 15, 16, 18, 28, 29) [#] (Combine with encapsulation material 4, 13, 16, 17) [*]	Cybrid Technologies Inc.	Cynagard 205A (R)	Thickness = 314 ± 10%µm Max. System Voltage = 1500V CTI = 600 (V) Color: white or black	Tested with PV modules Certificate no. R 50411794 issued by TÜV Rheinland
Rear cover 3 (Combine with encapsulation material 2, 28) [#]	Crown Advanced Material Co., Ltd.	Crwon BF-xyn	Thickness = 0.346 ±10% mm or 0.350 ±10% mm Max. System Voltage = 1500V CTI=550 (V) for PVF layer CTI=300 (V) for PET layer Color: white	Tested with PV modules Certificate no. 70.407.17.024.03-00 issued by TÜV SUD
Rear cover 4 (combine with encapsulation material 1, 3, 4, 5, 15, 16, 18, 29) [#] (combine with encapsulation material 1, 5, 18, 29) [*]	Crown Advanced Material Co., Ltd.	Crwon BE-xn (G3)	Thickness = 0.35 mm±10% Rated voltage = 1500V CTI = 150 or 200 (V) for PVDF layer CTI = 300 or 250 (V) for PET layer CTI = 600 for PO layer Color: white or black	Tested with PV modules Certificate no. 70.407.17.024.02-00 issued by TÜV SUD
Rear cover 5 (combine with encapsulation material 3, 15) [#]	Changzhou Huitian New Material Co., Ltd.	PV358S	Thickness = 0.326 mm±10% Rated voltage = 1500V CTI = 400 (V) Color: white or black	Tested with PV modules Certificate no. R 50436671 issued by TÜV Rheinland
Rear cover 6 (combine with encapsulation material 3, 15) [#]	Jolywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW30 (plus)	Thickness = 0.315 mm±10% Rated voltage = 1500V CTI = 600 (V) Color: white or black	Tested with PV modules Certificate no. R 50302127 issued by TÜV Rheinland
Rear cover 7 (Combine with encapsulation material 1, 2, 3, 15, 28, 29) [#]	DSM SunShine Solar Technology (Suzhou) Co., Ltd. (Former name: Suzhou Sunshine New Materials Technology Co., Ltd.)	MP Sheet PF B10 (AnarMat 1000A)	Thickness = 0.36 mm ± 10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white or black	Tested with PV modules Certificate no. R 50438182 issued by TÜV Rheinland
Rear cover 8 (Combine with encapsulation material 3, 4, 15, 16) [#]	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	BEC-303	Thickness = 0.305 mm ± 10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side); black (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. R 50427904 issued by TÜV Rheinland

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Carra Chen

(Signature of authorized TÜV NORD CERT engineer)

Object	Manufacturer	Type	Technical Data	Remark
Rear cover 9 (combine with encapsulation material 1, 2, 3, 4, 5, 6, 10, 14, 15, 16, 18, 28, 29) [#] (combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29) [*]	Crown Advanced Material Co., Ltd.	Crown BO-P2	Thickness = 0.310 mm±10% Rated voltage = 1500V CTI = 200 or 250 (V) for PET layer CTI = 600 (V) for PU layer Color: white (Air side) white or black (PV side)	Tested with PV modules Certificate no. R 50487769 issued by TÜV Rheinland
Rear cover 10 (combine with encapsulation material 1, 2, 3, 4, 5, 6, 14, 15, 16, 18, 28, 29) [#] (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29) [*]	Jolywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW3010 (plus)	Thickness = 0.310 mm±10% Rated voltage = 1500V CTI = 600 (V) Color: white (air side & PV side); black (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. R 50484166 issued by TÜV Rheinland
Rear cover 11 (combine with encapsulation material 3, 6, 14, 15) [#]	Jolywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW30BM (plus)	Thickness = 0.325 mm±10% Rated voltage = 1500V CTI = 600 (V) Color: white (Air side & PV side) with black mesh layer (PV side)	Covered by tested PV modules Certificate no. R 50484166 issued by TÜV Rheinland
Rear cover 12 (combine with encapsulation material 3, 4, 5, 6, 14, 15, 16, 18) [#]	Coveme Engineered Films Zhangjiagang Co., Ltd.	dyMat HDPYE SPV C	Thickness = 0.314 mm±10% Rated voltage = 1500V CTI = 400 (V) Color: white (Air side) white or black (PV side)	Tested with PV modules Certificate no. R 50474181 issued by TÜV Rheinland PTI report no. 50261366 005 issued by TÜV Rheinland
Rear cover 13 (Combine with encapsulation material 7) [#]	Suzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	BEC-301T	Thickness = 0.305 mm±10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: transparent	Tested with PV modules Certificate no. R 50474761 issued by TÜV Rheinland
Rear cover 14 (Combine with encapsulation material 3, 8, 9, 15) [#] (Combine with encapsulation material 11, 13, 17, 20, 22, 23, 24, 25, 26, 27) [*]	Cybrid Technologies Inc.	Cynagard 255	Thickness = 0.304 mm ± 10% Max. System Voltage = 1500 VDC CTI = 600 (V) for white (PV side), 400 (V) for black (PV side) Color: white (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. R 50457791 issued by TÜV Rheinland

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Object	Manufacturer	Type	Technical Data	Remark
Rear cover 15 (Combine with encapsulation material 3, 4, 15, 16) [#] (Combine with encapsulation material 3, 4, 11, 13, 15, 16, 17, 20) *	Suzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	BEC-301D	Thickness = 0.300 mm ± 10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. R 50427904 issued by TÜV Rheinland
Rear cover 16 (Combine with encapsulation material 3, 4, 15, 16) [#] (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 25, 26, 28, 29) *	Suzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	BEC-301PC	Thickness = 0.310 mm ± 10% Max. System Voltage = 1500 VDC CTI (air side) = 300 (V) CTI (PV side) = 550 (V) Color: white (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. R B 104846 0006 Rev. 00 issued by TÜV SÜD
Rear cover 17 (Combine with encapsulation material 3, 4, 5, 11, 12, 15, 16, 18, 20, 21) *	Cybrid Technologies Inc.	Cynagard 275A	Thickness = 0.334mm ± 10% Max. System Voltage = 1500 VDC CTI = 400 (V) Color: white (air side & PV side); white (air side) & black (PV side) black (air side & PV side);	Tested with PV modules Certificate no. R 50449557 issued by TÜV Rheinland
Rear cover 18 (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 14, 15, 16, 18, 28, 29) *	Chang Zhou Hui Tian Material Co., Ltd.	PV308C	Thickness = 0.328±10%mm Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side)	Tested with PV modules CTI Report no. 70.407.21.085.02-00 issued by TÜV SÜD
Rear cover 19 (Combine with encapsulation material 4, 16, 18) *	Zhejiang Sinopoly Materials Co., Ltd.	NewCo-1500E	Thickness = 0.350±10%mm Max. System Voltage = 1500V CTI = 600 (V) Color: white (air side & PV side)	Tested with PV modules CTI Report no. 2023DAWA20011 issued by CPVT
Rear cover 20 (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29)	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Jolywood (Suzhou) Sunwatt Co., Ltd Type: FFC-JW3010 (plus))	TWCEM01	Thickness = 0.310mm±10% Rated voltage = 1500V CTI = 600 (V) Color: white(air side & PV side); black (air side & PV side); white (air side) & black (PV side)	Covered by tested PV modules Certificate no. B 090075 0022 Rev.00 issued by TÜV SÜD
Rear cover 21 (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 14, 15, 16, 18, 28, 29) *	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Chang Zhou Hui Tian Material Co., Ltd. Type: PV308C)	TWCEM05	Thickness = 0.328mm±10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side)	Covered by tested PV modules CTI Report no. CN212TYP 002 issued by TÜV Rheinland

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(Signature of authorized TÜV NORD CERT engineer)



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Object	Manufacturer	Type	Technical Data	Remark
Rear cover 22 (Combine with encapsulation material 4, 16)*	Suzhou Yisheng Optical Material Co., Ltd.	Inshine201H	Thickness = 0.303mm±10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side);	Tested with PV modules CTI Report no. 70.407.21.380.01-00 issued by TÜV SÜD
Rear cover 23 (Combine with encapsulation material 3, 4, 15, 16)# (Combine with encapsulation material 3, 4, 11, 13, 15, 16, 17, 20) *	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Suzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd. Type: BEC-301D)	TWCEM04	Thickness = 0.300mm±10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side); white (air side) & black (PV side)	Covered by tested PV modules Certificate no. 70.126.23.131.02 issued by TÜV SÜD
Rear cover 24 (Combine with encapsulation material 3, 4)# (Combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 25, 26, 28, 29)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Suzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd. Type: BEC-301PC)	TWYEM04	Thickness = 0.310mm±10% Max. System Voltage = 1500 VDC CTI (air side) = 300 (V) CTI (PV side) = 550 (V) Color: white (air side & PV side); white (air side) & black (PV side)	Covered by tested PV modules Certificate no. 70.126.23.131.03 issued by TÜV SÜD
Rear cover 25 (Combine with encapsulation material 4, 16) *	Lucky Film Co., Ltd.	CPCw1	Thickness = 0.310mm±10% Max. System Voltage = 1500 VDC CTI = 600 (V) Color: white (air side & PV side)	Covered by tested PV modules Certificate no. B 105044 0010 issued by TÜV SÜD
Rear cover 26 (combine with encapsulation material 1, 3, 4, 5, 15, 16, 18, 29)# (combine with encapsulation material 1, 5, 18, 29)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Crown Advanced Material Co., Ltd. Type: Crwon BE-xn (G3))	TWBEM03	Thickness = 0.35 mm±10% Rated voltage = 1500V CTI = 600 (V) Color: white or black	Covered by tested PV modules Certificate no. R 50599181 0001 issued by TÜV Rheinland
Rear cover 27 (combine with encapsulation material 1, 2, 3, 4, 5, 6, 10, 14, 15, 16, 28, 29)# (combine with encapsulation material 1, 2, 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Crown Advanced Material Co., Ltd. Type: Crown BO-P2)	TWYEM03	Thickness = 0.310 mm±10% Rated voltage = 1500V CTI = 400 (V) for white (PV side) CTI = 600 (V) for black (PV side) Color: white (Air side) white or black (PV side)	Covered by tested PV modules Certificate no. R 50599186 0001 issued by TÜV Rheinland

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(Signature of authorized TÜV NORD CERT engineer)

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Object	Manufacturer	Type	Technical Data	Remark
Rear cover 28 (Combine with encapsulation material 1, 2, 3, 4, 5, 15, 16, 18, 28, 29) [#] (Combine with encapsulation material 4, 13, 16, 17) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Cybrid Technologies Inc. Type: Cynagard 205A (R))	TWAEM02	Thickness = 0.314 ± 10%mm Max. System Voltage = 1500V CTI = 600 (V) Color: white or black	Covered by tested PV modules Certificate no. R 50597999 0001 issued by TÜV Rheinland
Rear cover 29 (Combine with encapsulation material 3, 4, 5, 11, 12, 15, 16, 18, 20) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Cybrid Technologies Inc. Type: Cynagard 275A)	TWZEM02	Thickness = 0.314mm ± 10% Max. System Voltage = 1500 VDC CTI = 400 (V) Color: white (air side & PV side); white (air side) & black (PV side)	Covered by tested PV modules Certificate no. R 50597976 0001 issued by TÜV Rheinland
Rear cover 30 (Combine with encapsulation material 3, 8, 9, 15) [#] (Combine with encapsulation material 11, 13, 17, 20, 22, 23, 24, 25, 26, 27) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Cybrid Technologies Inc. Type: Cynagard 255)	TWCEM02	Thickness = 0.304 mm ± 10% Max. System Voltage = 1500 VDC CTI = 600 (V) for white (PV side), CTI = 400 (V) for black (PV side) Color: white (air side & PV side); white (air side) & black (PV side)	Covered by tested PV modules Certificate no. R 50597993 0001 issued by TÜV Rheinland
Rear cover 31 (Combine with encapsulation material 13, 17) [*]	Crown Advanced Material Co., Ltd.	Crwon BF-xyn (GM5)	Thickness = 0.315 ± 10% mm Max. System Voltage = 1500V CTI=600 (V) Color: white (air side & PV side); black (air side & PV side); white (air side) & black (PV side)	Tested with PV modules Certificate no. 70.407.20.074.03-00 issued by TÜV SUD
Rear cover 32 (Combine with encapsulation material 4, 16) [*]	Ningbo Exciton New Energy Co., Ltd	ETC15C	Thickness = 0.320 mm±10% Max. Rated voltage = 1500V CTI=600 (V) Color: white (air side & PV side);	Tested with PV modules Certificate no. R 50536632 0001 issued by TÜV Rheinland
Encapsulation material 1 (Combine with mono cell 1, 2, 3, 6, 9) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Shanghai HIUV New Materials Co., Ltd.	S201MT1 (glass side) & S201MT2 (backsheet side)	Thickness = 0.52 - (0.75±0.1) mm (S201MT1) Thickness = 0.50 - (0.70±0.1) mm (S201MT2) CTI = 600 (V)	Tested with PV modules CTI report no. GZIN1605022185PS issued by SGS

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 2 (Combine with mono cell 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 18) [*]	Changzhou Sveck Photovoltaic New Material Co., Ltd.	SV-15296P (glass side) & SV-15297P (backsheet side)	Thickness = 0.40 - 0.65 mm (SV-15296P) Thickness = 0.40 - 0.65mm (0.45mm) (SV-15297P) CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.17.118.01-00 issued by TÜV SUD
Encapsulation material 3 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	F406P (glass side) & F806P (backsheet side)	Thickness = 0.40 - 0.70 mm (F406P) Thickness = 0.40 - 0.70 mm (F806P) PTI = 600 (V)	Tested with PV modules PTI report no. 15101259 002 issued by TÜV Rheinland for F406P PTI report no. 1510259 003 issued by TÜV Rheinland for F806P
Encapsulation material 4 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	F406P (glass side) & F806W (backsheet side)	Thickness = 0.40 - 0.76 mm (F406P) Thickness = 0.40 - 0.70 mm (F806W) PTI = 600 (V)	Tested with PV modules PTI report no. 15101259 004 issued by TÜV Rheinland for F806W
Encapsulation material 5 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Shanghai HIUV New Materials Co., Ltd	S201MT1 (glass side) & S201W (backsheet side)	Thickness = 0.40 - (0.75±0.1) mm (S201MT1) Thickness = 0.40 - (0.70±0.1) mm (S201W) PTI = 600 (V)	Tested with PV modules PTI report no. 15101526 001 issued by TÜV Rheinland
Encapsulation material 6 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 18) [*]	Changzhou Sveck Photovoltaic New Material Co., Ltd.	SV-15296P (glass side) & SV-15297W (backsheet side)	Thickness = 0.40 - 0.75 mm (SV-15296P) Thickness = 0.40 - 0.65 mm (SV-15297W) CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.17.118.02-00 issued by TÜV SUD
Encapsulation material 7 (Combine with mono cell 4, 5, 7, 8, 10, 11) [#]	Minnesota Mining and Manufacturing Corporation (3M)	8110 /PO8110 (glass side) & 8110 / PO8110 (backsheet side)	Thickness = 0.51 - 0.80 mm PTI = 600 (V)	Tested with PV modules PTI report no. 15104166 001 issued by TÜV Rheinland

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 8 (Combine with mono cell 4, 5, 7, 8, 10, 11) [#]	Cybrid Technologies Inc.	Cybright T11 (glass side) & Cybright C11 (backsheet side)	Thickness = 0.36 - 0.60 mm (Cybright T11) Thickness = 0.36 - 0.60 mm (Cybright C11) PTI = 600 (V)	Tested with PV modules CTI report no. 15043899 067 issued by TÜV Rheinland for Cybright T11 CTI report no. 15043899 060 issued by TÜV Rheinland for Cybright C11
Encapsulation material 9 (Combine with mono cell 4, 5, 7, 8, 10, 11) [#]	Cybrid Technologies Inc.	Cybright T11 (glass side) & Cybright W11 (backsheet side)	Thickness = 0.36 - 0.60 mm (Cybright T11) Thickness = 0.36 - 0.60 mm (Cybright W11) PTI = 600 (V)	Tested with PV modules CTI report no. 15043899 067 issued by TÜV Rheinland for Cybright T11 CTI report no. 15043899 064 issued by TÜV Rheinland for Cybright W11
Encapsulation material 10 (Combine with mono cell 4, 5, 7, 8, 10, 11) [#]	Crown Advanced Material Co., Ltd.	ISARD 2180 (glass side) & ISARD 2280 (backsheet side)	Thickness = 0.40 - 0.80 mm for both CTI = 600 (V)	Tested with PV modules CTI report no. E342395 issued by UL
Encapsulation material 11 (Combine with mono cell 16, 17, 19) [*]	Minnesota Mining and Manufacturing Corporation (3M) Zhejiang Sinopont Technology Co., Ltd.	PO8110 /8110(glass side) & 7100 (backsheet side)	Thickness = 0.30 - 0.80 mm for both CTI = 600 (V)	Tested with PV modules CTI report no. CN212VUP 002 issued by TÜV Rheinland
Encapsulation material 12 (Combine with mono cell 16, 17, 19) [*]	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	TF4 (POE, glass side) & TF8(POE, backsheet side)	Thickness = 0.3mm - 0.7mm (TF4) PTI = 600 (V) Thickness = 0.4mm - 0.7mm (TF8) CTI = 600 (V)	Tested with PV modules PTI report no. 15101259 005 issued by TÜV Rheinland for TF4 CTI report no. 70.407.17.366 01 issued by TÜV SUD for TF8
Encapsulation material 13 (Combine with mono cell 16, 17, 19) [*]	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.	TF4 (POE, glass side) & F806W (EVA, backsheet side)	Thickness = 0.3mm - 0.7mm (TF4) Thickness = 0.30mm - 0.70 mm (F806W) PTI = 600 (V)	Tested with PV modules PTI report no. 15101259 005 issued by TÜV Rheinland for TF4 Tested with PV modules PTI report no. 15101259 004 issued by TÜV Rheinland for F806W
Encapsulation material 14 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 18) [*]	Tongwei Solar (Hefei) Co., Ltd (Manufacturer: Changzhou Sveck Photovoltaic New Material Co., Ltd. Type: SV-15296P (glass side) & SV-15297W (backsheet side))	TWET03 (glass side) & TWEW03 (backsheet side)	Thickness = 0.40 - 0.75 mm (TWET03) Thickness = 0.40 - 0.65 mm (TWEW03) CTI = 600 (V)	Covered by tested PV modules CTI report no. 70.407.23.090.08-00 issued by TÜV SUD

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 15 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Hangzhou First PV Material Co., Ltd. / Hangzhou First Applied Material Co., Ltd. Type: F406P (glass side) & F806P (backsheet side))	TWET01 (glass side) & TWEJ01 (backsheet side)	Thickness = 0.40 - 0.70 mm for both CTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.09-00 issued by TÜV SUD
Encapsulation material 16 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Hangzhou First PV Material Co., Ltd. / Hangzhou First Applied Material Co., Ltd. Type: F406P (glass side) & F806W (backsheet side))	TWET01 (glass side) & TWEW01 (backsheet side)	Thickness = 0.40 - 0.76 mm for TWET01 Thickness = 0.40 - 0.70 mm for TWEW01 CTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.09-00 issued by TÜV SUD
Encapsulation material 17 (Combine with mono cell 16, 17, 19) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Hangzhou First PV Material Co., Ltd. / Hangzhou First Applied Material Co., Ltd. Type: TF4 (POE, glass side) & F806W (EVA, backsheet side))	TWPT01 (glass side) & TWEW01 (backsheet side)	Thickness = 0.4mm - 0.7mm for both CTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.09-00 issued by TÜV SUD
Encapsulation material 18 (Combine with mono cell 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) [#] (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19) [*]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Shanghai HIUV New Materials Co., Ltd Type: S201MT1 (glass side) & S201W (backsheet side))	TWET02 (glass side) & TWEW02 (backsheet side)	Thickness = 0.40 - 0.80 mm for TWET02 Thickness = 0.50 - 0.70 mm for TWEW02 CTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.12-00 issued by TÜV SUD
Encapsulation material 19 (Combine with mono cell 4, 5, 7, 8, 10, 11) [#]	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Minnesota Mining and Manufacturing Corporation (3M) Type: 8110 / PO8110 (glass side) & 8110 / PO8110 (backsheet side))	TWPT04 (both side)	Thickness = 0.51 - 0.80 mm for both PTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.18-00 issued by TÜV SUD

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 20 (Combine with mono cell 16, 17, 19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Minnesota Mining and Manufacturing Corporation (3M) /Zhejiang Sinopont Technology Co., Ltd. Type: PO8110 /8110(glass side) & 7100 (backsheet side))	TWPT04 (glass side) & TWEW04 (backsheet side)	Thickness = 0.30 - 0.80 mm for both CTI = 600 (V)	Covered by main tested type CTI report no. 70.407.23.090.18-00 issued by TÜV SÜD
Encapsulation material 21 (Combine with mono cell 16, 17,19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd. Type: TF4 (POE, glass side) & TF8(POE, backsheet side))	TWPT01 (POE, glass side) & TWPJ01 (POE, backsheet side)	Thickness = 0.4mm - 0.7mm (TWPT01) PTI = 600 (V) Thickness = 0.4mm - 0.7mm (TWPJ01) CTI = 600 (V)	Covered by main tested type 70.407.23.090.09-00 issued by TÜV SÜD for TWPT01 CTI report no. 70.407.23.090.20-00 issued by TÜV SÜD for TWPJ01
Encapsulation material 22 (Combine with mono cell 16,17, 19)*	Shanghai HIUV New Materials Co., Ltd.	P507 (POE, front side) & S201W (backsheet side)	Thickness = 0.3mm - 0.8mm (P507) CTI = 600 (V) Thickness = 0.3mm - 0.8mm (S201W) PTI = 600 (V)	Tested with PV modules CTI report no. 15101526 007 issued by TÜV Rheinland for P507 PTI report no. 15101526 001 issued by TÜV Rheinland for S201W
Encapsulation material 23 (Combine with mono cell 16,17, 19)*	Changzhou Sveck PV New Material Co., Ltd.	SE556 (POE, front side) & SV-15297W (EVA backsheet side)	Thickness = 0.30 - 0.70mm (SE556) CTI = 600 (V) Thickness = 0.30 - 0.7mm (SV-15297W) CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.17.118.01-01 issued by TÜV SÜD (SE556) CTI report no. 70.407.17.118.02-00 issued by TÜV SÜD (SV-15297W)
Encapsulation material 24 (Combine with mono cell 16, 17, 19)*	Changzhou Betterial Film Technologies Co., Ltd.	B602(POE, front side) B601W (EVA, rear side)	Thickness = 0.20mm - 0.8mm for both CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.18.009.01-00 issued by TÜV SÜD (B602) TC.23.01.000132(B602 W) issued by TÜV SÜD
Encapsulation material 25 (Combine with mono cell 16,17, 19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Shanghai HIUV New Materials Co., Ltd Type: P507 (POE, front side) &S201W (backsheet side))	TWPT02 (POE, front side) & TWEW02 (backsheet side)	Thickness = 0.3mm - 0.8mm for both CTI = 600 (V)	Tested with PV modules CTI report no. 70.47.23.090.24-01 issued by TÜV SÜD for TWPT02 PTI report no. 70.407.23.090.12-00 issued by TÜV SÜD for TWEW02

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 26 (Combine with mono cell 16,17, 19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Changzhou Sveck PV New Material Co., Ltd. Type: SE556 (POE, front side) &SV-15297W (EVA backsheet side)	TWPT03 (POE, front side) & TWEW03 (EVA backsheet side)	Thickness = 0.30 - 0.70mm for both CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.23.090.23-01 issued by TÜV SÜD (TWEW03) CTI report no. 70.407.23.090.08-00 issued by TÜV SUD (TWEW03)
Encapsulation material 27 (Combine with mono cell 16, 17, 19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Changzhou Betterial Film Technologies Co., Ltd. Type: B602(POE, front side) B601W (EVA, rear side)	TWPT05(POE, front side) & TWEW05 (EVA, rear side)	Thickness = 0.20mm - 0.8mm for both CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.23.090.22-01 issued by TÜV SÜD
Encapsulation material 28 (Combine with mono cell 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11)# (Combine with mono cell 12, 13, 14, 15, 18)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Changzhou Sveck Photovoltaic New Material Co., Ltd. Type: SV-15296P (glass side) & SV-15297P (backsheet side)	TWET03 (glass side) & TWEJ03 (backsheet side)	Thickness = 0.40 - 0.75 mm (TWET03) Thickness = 0.40 - 0.65mm (TWEJ03) CTI = 600 (V)	Tested with PV modules CTI report no.:70.407.23.090.08-00 issued by TÜV SUD for TWET03 CTI report no.:70.407.23.090.23-01 issued by TÜV SUD for TWEJ03
Encapsulation material 29 (Combine with mono cell 1, 2, 3, 6, 9)# (Combine with mono cell 12, 13, 14, 15, 16, 17, 18, 19)*	Tongwei Solar (Hefei) Co., Ltd. (Manufacturer: Shanghai HIUV New Materials Co., Ltd. Type: S201MT1 (glass side) &S201MT2 (backsheet side)	TWET02 (glass side) & TWEJ02 (backsheet side)	Thickness = 0.40 - 0.80 mm for TWET02 Thickness = 0.50 - (0.70±0.1) mm TWEJ02 CTI = 600 (V)	Tested with PV modules CTI report no. 70.407.23.090.12-00 issued by TÜV SUD for TWET02 CTI report no. 70.407.23.090.24-01 issued by TÜV SUD for TWEJ02
Frame parts 1	Jiangsu Yuejia Metallic Technology Co., Ltd	6063-T5	Material: Aluminum Thickness=40 mm Color: silver or black	Tested with PV modules
Frame parts 2			Material: Aluminum Thickness=35 mm Color: silver or black (only for PV modules with 360 or 340 segmented solar cells)	Tested with PV modules
Frame parts 3		6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Tested with PV modules
Frame parts 4			Material: Aluminum Thickness=35 mm Color: silver or black	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 5	Hefei Runya New Energy Technology Co., Ltd.	6063-T5	Material: Aluminum Thickness=40 mm Color: silver	Tested with PV modules
Frame parts 6			Material: Aluminum Thickness=35 mm Color: silver (only for PV modules with 360 or 340 segmented solar cells)	Tested with PV modules
Frame parts 7		6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Tested with PV modules
Frame parts 8			Material: Aluminum Thickness=35 mm Color: silver or black	Tested with PV modules
Frame parts 9	Jiangsu LEAD Aluminum Industry Co., Ltd.	6063-T5	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 10			Material: Aluminum Thickness=35 mm Color: silver or black (only for PV modules with 360 or 340 segmented solar cells)	Covered by main tested type
Frame parts 11		6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 12			Material: Aluminum Thickness=35 mm Color: silver or black	Covered by main tested type
Frame parts 13	ANHUI FIRST ALUMINUM ALLOY CO., LTD.	6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 14			Material: Aluminum Thickness=35 mm Color: silver or black	Covered by main tested type
Frame parts 15	ANHUI XINBO Aluminum INDUSTRY SHARE Co., Ltd.	6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 16			Material: Aluminum Thickness=35 mm Color: silver or black	Covered by main tested type
Frame parts 17	Anhui Guofei New Energy Technology Co., Ltd.	6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 18			Material: Aluminum Thickness=35 mm Color: silver or black	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 19	Anhui Guangyin Aluminum Co., Ltd.	6063-T6	Material: Aluminum Thickness=40 mm Color: silver or black	Covered by main tested type
Frame parts 20			Material: Aluminum Thickness=35 mm Color: silver or black	Covered by main tested type
Frame parts 21	Jiangsu Longji Aluminium Co., Ltd	6063-T6	Material: Aluminum Thickness=40mm Color: silver or black	Covered by main tested type
Frame parts 22			Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 23	JIANGYIN DEGAO NEW ENERGY TECHNOLOGY CO., LTD.	6063-T6	Material: Aluminum Thickness=40mm Color: silver or black	Covered by main tested type
Frame parts 24			Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 25	YongZhen Science and Technology (Changzhou) Co., LTD Yonz Technology Co., Ltd.	6063-T6	Material: Aluminum Thickness=40mm Color: silver or black	Covered by main tested type
Frame parts 26			Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 27	JIANGYIN DEGAO NEW ENERGY TECHNOLOGY CO., LTD	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 28			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 29	Anhui Guofei New Energy Technology Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 30			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 31	Anhui Guangyin Aluminum Co., LTD	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 32			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 33	Hefei Runya New Energy Technology Co., Ltd	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 34			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 35	ANHUI FIRST ALUMINUM CO., LTD.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 36			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 37	ANHUI XINBO Aluminum INDUSTRY SHARE Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 38			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 39	Jiangsu Yuejia Metallic Technology Co., Ltd	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 40			Material: Aluminum Thickness=30mm Color: silver or black	Tested with PV modules
Frame parts 41	Jiangsu LEAD Aluminum Industry Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 42			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 43	Jiangsu Longji Aluminium Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 44			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 45	YongZhen Science and Technology (Changzhou) Co., LTD Yonz Technology Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 46			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 47	Yingkou Changtai Aluminum Material Co., Ltd	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 48			Material: Aluminum Thickness=30mm Color: silver or black	Tested with PV module

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 49	CITIC Bohai Aluminum Industries Holding Company Limited	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 50			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 51	Tongwei Solar (Hefei) Co. Ltd. Manufacturer:	6005-T6	Material: Aluminum Thickness=30mm Color: silver or black	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 52	1. JIANGYIN DEGAO NEW ENERGY TECHNOLOGY CO., LTD 2. Anhui Guofei New Energy Technology Co., Ltd. 3. Anhui Guangyin Aluminum Co., LTD 4. Hefei Runya New Energy Technology Co., Ltd 5. ANHUI FIRST ALUMINUM CO., LTD. 6. ANHUI XINBO Aluminum INDUSTRY SHARE Co., Ltd. 7. Jiangsu Yuejia Metallic Technology Co., Ltd 8. Jiangsu LEAD Aluminum Industry Co., Ltd. 9. Jiangsu Longji Aluminium Co., Ltd. 10. YongZhen Science and Technology (Changzhou) Co., LTD Yonz Technology Co., Ltd. 11. Yingkou Changtai Aluminum Material Co., Ltd 12. CITIC Bohai Aluminum Industries Holding Company Limited 13. Chengdu YANGGUANG Aluminum Co.,Ltd. 14. Sichuan MingDi Aluminium Co., Ltd. Sichuan Mingdi New Energy Co., Ltd. 15. Guangdong Macmetal New Energy Technology Co., Ltd 16. Jiangsu Hongyuanda Photovoltaic New Materials Co., Ltd. 17. HeNan Shengda Photovoltaic Technology Co.,Ltd. 18. Jiangyin Yurun Photovoltaic Materials Co., Ltd.		Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 53	Chengdu YANGGUANG Aluminum Co.,Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 54			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
Frame parts 55	Sichuan MingDi Aluminium Co., Ltd. Sichuan Mingdi New Energy Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 56			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 57	Guangdong Macmetal New Energy Technology Co., Ltd.	6005-T6	Material: Aluminum Thickness=35mm Color: silver or black	Tested with PV modules
Frame parts 58			Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 58	Jiangsu Hongyuanda Photovoltaic New Materials Co., Ltd.	6005-T6	Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 59			Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 60	HeNan Shengda Photovoltaic Technology Co.,Ltd.	6005-T6	Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 61			Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Frame parts 62	Jiangyin Yurun Photovoltaic Materials Co., Ltd.	6005-T6	Material: Aluminum Thickness=30mm Color: silver or black	Covered by main tested type
Frame parts 63			Material: Aluminum Thickness=35mm Color: silver or black	Covered by main tested type
Adhesive (frame) 1	Shanghai Huitian New Chemical Co., Ltd.	HT906Z	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 2	Suzhou Tonsan Adhesive Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 3	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT-8258	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 4	Jiangsu Crevo Science & Technology Co., Ltd. Sika (Jiangsu) Industrial Material Ltd.	CV709	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 5	JIANGSU MINGHAO NEW MATERIAL SCI-TECH CORPORATION	MH3668	Silicone Color: white or black	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Adhesive (frame) 6	Hangzhou Zhijiang Silicone Chemicals CO., LTD	JS-606	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 7	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT-6360	Silicone Color: white or black	Tested with PV modules
Adhesive (frame) 8	Chengdu Guibao Science & Technology Co., Ltd.	888A	Silicone Color: white or black	Tested with PV modules
Internal wiring (for interconnection cell-to-cell bus bar)	Shanghai Reland Photovoltaic Material Co., Ltd.	MW9031	Electronic conductive adhesive [#]	Tested with PV modules
	Suzhou Ruilibo Material Technology Co., Ltd.	RPV-622	Electronic conductive adhesive [#]	Tested with PV modules
	Darbond Technology Co., Ltd.	DT-93	Electronic conductive adhesive [#]	Tested with PV modules
	Henkel (China) Investment Co., Ltd.	Loctite Ablestic CA 3556HF	Electronic conductive adhesive [#]	Tested with PV modules
	Henkel (China) Investment Co., Ltd.	Loctite Ablestic ICP 8311	Electronic conductive adhesive [#]	Tested with PV modules
	Henkel (China) Investment Co., Ltd.	Loctite Ablestic ICP 8259	Electronic conductive adhesive [#]	Tested with PV modules
	Shanghai Huitian New Chemical Co., Ltd.	9508	Electronic conductive adhesive [#]	Tested with PV modules
	Shenzhen Earlysun Technology Co., Ltd.	GZ-2030	Electronic conductive adhesive [#]	Tested with PV modules
	Shanghai Reland Photovoltaic Material Co., Ltd.	RELAND 9153	Electronic conductive adhesive [#]	Tested with PV modules
	Shanghai Reland Photovoltaic Material Co., Ltd.	RELAND 310	Electronic conductive adhesive [#]	Tested with PV modules
	Shanghai Huitian New Chemical Co., Ltd.	9508B	High-performance HTV sealants [#]	Tested with PV modules
	Zhejiang Xinyu Material Technology Co., Ltd.	SE-2005	Electronic conductive adhesive [#]	Tested with PV modules
	Soltrium Advanced Materials Technology., Ltd. Shenzhen	SCA100-E2	Electronic conductive adhesive [#]	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
	Darbond Technology Co., Ltd.	6309	Electronic conductive adhesive#	Tested with PV modules
	Suzhou SanySolar Material Technology Corporation	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
	Wuxi Sveck Technology Co., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
	Jiangsu Sun Technology Corp., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
			Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Tested with PV modules
	Suzhou YourBest New-type Materials Co., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
			Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Tested with PV modules
	TonyShare (Suzhou) Electronic Material Technology Co., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
			Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Tested with PV modules
	Qinhuangdao ChanLine Photovoltaic Electronics Co., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
	Changzhou Greateen New Energy Technology Co., Ltd.	Copper belt with tin plated	0.12±10% x 20±10% mm 0.12±10% x 15±10% mm 0.12±10% x 13±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
			Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Tested with PV modules
	Xi'an Telison New Materials Co., Ltd.	Copper belt with tin plated	Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd Manufacturer: 1. Jiangsu Sun Technology Corp., Ltd. 2. Suzhou YourBest New-type Materials Co., Ltd. 3. TonyShare (Suzhou) Electronic Material Technology Co., Ltd. 4. Changzhou Greateen New Energy Technology Co., Ltd. 5. Xi'an Telison New Materials Co., Ltd.	Copper belt with tin plated	Φ = 0.32mm±10% Φ = 0.26mm±10% Sn60%Pb40% Color: silver	Covered by main tested type
Internal wiring (for inter-string connection)	Suzhou SanySolar Material Technology Corporation	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.35±10% x 6.0±10% mm Sn60%Pb40% Color: silver	Tested with PV modules
	Suzhou YourBest New-type Materials Co., Ltd.	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.35±10% x 6.0±10% mm 0.35±10% x 5.4±10% mm 0.08±10% x 5.5±10% mm 0.085±10% x 6.0±10% mm 0.3±10% x 5.4±10% mm Sn60%Pb40% Color: silver or black 0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) 0.25±10% x 7.0±10% mm (middle) 0.20±10% x 8.0±10% mm (middle) Sn60%Pb40% Color: silver or black	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
		Copper belt with tin plated(reflective)	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
	Wuxi Sveck Technology Co., Ltd.	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.35±10% x 6.0±10% mm 0.35±10% x 5.4±10% mm 0.08±10% x 5.5±10% mm Sn60%Pb40% Color: silver	Tested with PV modules
	Jiangsu Sun Technology Corp., Ltd.	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.35±10% x 5.4±10% mm 0.35±10% x 6.0±10% mm 0.08±10% x 5.5±10% mm 0.085±10% x 6.0±10% mm 0.3±10% x 5.4±10% mm Sn60%Pb40% Color: silver	Tested with PV modules
	TonyShare (Suzhou) Electronic Material Technology Co., Ltd.	Copper belt with tin plated	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) 0.25±10% x 7.0±10% mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
			0.2±10% x 6.0±10% mm 0.35±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.08±10% x 5.5±10% mm Sn60%Pb40% Color: silver	
		Copper belt with tin plated(reflective)	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Sn63%Pb37% Color: silver	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
	Qinhuangdao ChanLine Photovoltaic Electronics Co., Ltd.	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.35±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.08±10% x 5.5±10% mm 0.085±10% x 6.0±10% mm 0.3±10% x 5.4±10% mm Sn60%Pb40% Color: silver or black	Tested with PV modules
	Changzhou Greateen New Energy Technology Co., Ltd.	Copper belt with tin plated	0.2±10% x 6.0±10% mm 0.13±0.02 x 6.0±10% mm 0.35±10% x 6.0±10% mm 0.35±10% x 5.4±10% mm 0.08±10% x 5.5±10% mm 0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
		Copper belt with tin plated (reflective)	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
	Xi'an Telison New Materials Co., Ltd.	Copper belt with tin plated	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) 0.25±10% x 7.0±10% mm (middle)* Sn60%Pb40% Color: silver	Tested with PV modules
		Copper belt with tin plated(reflective)	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
	Tongwei Solar (Hefei) Co., Ltd. Manufacturer: 1.Suzhou YourBest New-type Materials Co., Ltd. 2. Jiangsu Sun Technology Corp., Ltd.	Copper belt with tin plated	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) 0.25±10% x 7.0±10% mm (middle) 0.20±10% x 8.0±10% mm (middle) Sn60%Pb40% Color: silver or black	Covered by main tested type

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Object	Manufacturer	Type	Technical Data	Remark
	3. TonyShare (Suzhou) Electronic Material Technology Co., Ltd. 4. Changzhou Greateen New Energy Technology Co., Ltd. 5. Xi'an Telison New Materials Co., Ltd.	Copper belt with tin plated (reflective)	0.32±10% x 4.0±10% mm, 0.3 x 4.0mm (both ends) 0.32±10% x 7.0±10% mm, 0.3 x 7.0 mm (middle) Sn60%Pb40% Color: silver	Tested with PV modules
Soldering material 1#	Suzhou Vital Electronics Material Technology Co., Ltd.	GW9038-PV	Solder paste	Tested with PV modules
Soldering material 2#	Beijing RTAX Technology Co., Ltd.	SRT901-ZF-T3-PV183	Solder paste	Tested with PV modules
Soldering material 3#	ShenZhen Earlysun Technology Co., Ltd.	EH-P37	Solder paste	Tested with PV modules
Fluxing agent 1	Asahi Solder Technology (Wuxi) Co., Ltd.	SF56	-	Tested with PV modules
Fluxing agent 2	Henkel Loctite (China) Co., Ltd.	X33-08i	-	Tested with PV modules
Fluxing agent 3	Suzhou Grabble Electronics Technology Co., Ltd.	FA19	-	Tested with PV modules
Fluxing agent 4	Suzhou Vital Electronics Material Technology Co., Ltd.	WTO-PV105A	-	Tested with PV modules
Fluxing agent 5	Asahi Solder Technology (Wuxi) Co., Ltd.	SF180	-	Tested with PV modules
Fluxing agent 6	Suzhou Vital Electronics Material Technology Co., Ltd.	WTO-PV302A	-	Tested with PV modules
Fluxing agent 7	Suzhou Vital Electronics Material Technology Co., Ltd.	WTO-PV112B	-	Tested with PV modules
Fluxing agent 8	Shenzhen Tong fang Electronic New Material Co., Ltd.	AATF9800-MBB	-	Tested with PV modules
Fluxing agent 9	Shaoxing Tuobang New Energy Co., Ltd.	NF10V06	-	Tested with PV modules
Fluxing agent 10	Shaoxing Tuobang New Energy Co., Ltd.	FC10V16	-	Tested with PV modules
Fixing tape 1	3M	UV-1	-	Tested with PV modules
Fixing tape 2	Cybrid Technologies Inc.	FF-3665	Thickness =70 μm±20% or 66±5 μm, 105±10 μm, 130±10μm	Tested with PV modules
Fixing tape 3	Cybrid Technologies Inc.	FF-3665(B75)	Thickness =120±10μm Color: black	Tested with PV modules
Fixing tape 4	TERAOKA SEISAKUSHO CO., LTD.	631S	Thickness = 0.05 mm ±10%	Tested with PV modules
Fixing tape 5	Yantai Darbond Technology Co., Ltd.	DT-9609	Thickness = 0.064 mm ±10%	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Fixing tape 6	Luqin New Material Technology (Jiangsu) Co., Ltd.	LK-H5035	Thickness = 85µm ± 5µm or 110µm ± 10µm	Tested with PV modules
Fixing tape 7	Guangdong SunRui New Materials Co., Ltd.	HZUV-100	Thickness = 0.12±10% mm Transparent	Tested with PV modules
Fixing tape 8	Luqin New Material Technology (Jiangsu) Co., Ltd	LK-H5035	Thickness = 0.11±0.01mm Color: white or black	Tested with PV modules
Fixing tape 9	Luqin New Material Technology (Jiangsu) Co., Ltd	D60F6-2	Thickness = 63/85/105/125µm±10% Color: transparent	Tested with PV modules
Fixing tape 10	Shanghai Hyperion Adhesive Material Co., Ltd.	9966	Thickness = 0.06mm±0.02mm Color: transparent	Tested with PV modules
Fixing tape 11	Tongwei Solar (Hefei) Co., Ltd.	TWGWJD	Thickness = 0.090mm±0.05mm Transparent	Tested with PV modules
Insulation tape 1	SharEx (Zhejiang) New Mstar Technology Ltd	EPE4216	Color: white or black	Tested with PV modules
Insulation tape 2	3M	D300	Thickness = 0.3 mm ±10% Color: white or black	Tested with PV modules
Insulation tape 3	3M	D500X	Thickness =0.55 mm ±10% Color: white or black	Tested with PV modules
Insulation tape 4	Suzhou First PV Material Co., Ltd.	BEC-201/ BEC-201B	Thickness =0.265 or 0.445 or 0.745 mm ±10% Color: white or black	Tested with PV modules
Insulation tape 5	Jolywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW18	Thickness =0.17 mm ±10% Color: white or black	Tested with PV modules
Insulation tape 6	Suzhou First PV Material Co., Ltd.	BEC-201T	Thickness =0.265 or 0.445 or 0.745 mm ±10% Color: transparent	Tested with PV modules
Insulation tape 7	Coveme Engineered Films Zhangjiagang Co., Ltd.	dyMat®EPE	Material = Primer / PET / Primer Thickness = 100 / 235 / 300µm ±10% Color: transparent	Tested with PV modules
Insulation tape 8	Changzhou Langrui New Energy Technology Co., Ltd.	APA450	Material = EVA / PET / EVA Thickness = 175 / 100 / 175µm Color: transparent / black / white	Tested with PV modules
Insulation tape 9	Cybrid Technologies Inc.	115E	Material = EVA / Adhesive / PET / Adhesive / EVA Thickness = 0.325-0.525mm Color: transparent	Tested with PV modules
Insulation tape 10	Suzhou Up-Star Electric Technology Co., LTD.	USG-EPE	Material = EVA / PET / EVA Thickness = 0.22-0.5mm ± 0.05mm Color: white or black or transparent	Tested with PV modules
Junction box set 1#				

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Object	Manufacturer	Type	Technical Data	Remark
Junction box	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	GF26xy(x=1, 2 or 3; y=G)	Max. Voltage=1500V (DC) Rated current = 13 A for GF26xy(x=1) Rated current = 15 A for GF26xy(x=2) Rated current = 20 A for GF26xy(x=3) RTI = 110°C Number of diodes: 2	Certificate No. R 50366288
	Sonnex Energie GmbH	GF26xy(x=1, 2 or 3; y=G) (Sonnex Energie (LOGO))	Max. Voltage=1500 V (DC) Rated current = 13 A for GF26xy(x=1) Rated current = 15 A for GF26xy(x=2) Rated current = 20 A for GF26xy(x=3) RTI = 110°C Number of diodes: 2	Certificate No. R 50511423
Adhesive (junction box)	Shanghai Huitian New Chemical Co., Ltd.	HT906Z	Silicone Color: white or black	Combine with rear cover 1 - 12, 26, 27, 28
	Suzhou Tonsan Adhesive Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	Silicone Color: white or black	Combine with rear cover 1 - 12, 26, 27, 28
	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT-8258	Silicone Color: white or black	Combine with rear cover 1 - 7, 26, 28
	Jiangsu Crevo Science & Technology Co., Ltd. Sika (Jiangsu) Industrial Material Ltd.	CV709	Silicone Color: white or black	Tested with PV modules Combine with rear cover 5
	JIANGSU MINGHAO NEW MATERIAL SCI-TECH CORPORATION	MH3668	Silicone Color: white or black	Tested with PV modules Combine with rear cover 6
	Hangzhou Zhijiang Silicone Chemicals CO., LTD	JS-606	Silicone Color: white or black	Combine with rear cover 2, 4, 6, 9, 10, 11, 20, 26, 27, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	Silicone Color: white or black	-
	TONSAN ADHESIVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533	Silicone Color: white or black	-
	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT-6360	Silicone Color: white	-
	Jiangsu Crevo Science & Technology Co., Ltd. Sika (Jiangsu) Industrial Material Ltd.	CV315	Silicone Color: white or black	Tested with PV modules
	JIANGSU MINGHAO NEW MATERIAL SCI-TECH CORPORATION	MH3667	Silicone Color: white or black	Tested with PV modules
Bypass diodes	Yangzhou Yangjie Electronic Technology Co., Ltd.	PST6020	Tj max = 200°C If = 20A	-

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Object	Manufacturer	Type	Technical Data	Remark
	Yangzhou HY Technology Development Co., Ltd		for GF26xy(x=2)	
	ChangZhou StarSea Electronics Co., Ltd.			
	Yangzhou Yangjie Electronic Technology Co., Ltd.	PST4530/T	Tj max = 200°C If = 30A for GF26xy(x=2)	-
	Yangzhou HY Technology Development Co., Ltd			
	ChangZhou StarSea Electronics Co., Ltd.			
	Yangzhou Yangjie Electronic Technology Co., Ltd.	PST4520	Tj max = 200°C If = 20A for GF26xy(x=1)	-
	Yangzhou HY Technology Development Co., Ltd			
	ChangZhou StarSea Electronics Co., Ltd.			
	Yangzhou Yangjie Electronic Technology Co., Ltd.	PST5040D	Tj max = 200°C If = 40A for GF26xy(x=3)	-
	Yangzhou HY Technology Development Co., Ltd			
	ChangZhou StarSea Electronics Co., Ltd.			
	PanJit InternationalInc			
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50318681
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x2.5mm ² , 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no. R 50452023
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated voltage = 1500VDC Rated current = 30A	Certificate no. R 50334688
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR PV-KBT4-EVO 2/xy_UR	Rated Voltage = 1500VDC Rated Current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO2A/xy PV-KBT4-EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd UTXCMabcd	Rated voltage = 1500VDC Rated current = 35A	Certificate no.: R 50340393
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated voltage = 1500VDC Rated current = 35A	Certificate no.: R 50473621
Junction box set 2#				

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Object	Manufacturer	Type	Technical Data	Remark
Junction box	Tongwei Solar (Hefei) Co., Ltd.	PVJB-TW-S/00A (A=1 or 2)	Max. Voltage=1500 V (DC) Rated current = 15 A for (A=1) Rated current = 20 A for (A=2) RTI = 110°C Number of diodes: 2	Certificate No. R 50431192
Adhesive (junction box)	Shanghai Huitian New Chemical Co., Ltd.	HT906Z	Silicone Color: white or black	Combine with rear cover 1, 2, 4, 7, 8, 9, 10, 11, 20, 26, 27, 28
	Suzhou Tonsan Adhesive Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	Silicone Color: white or black	Tested with PV modules Combine with rear cover 1, 2, 4, 7, 12, 13, 26, 28
Potting material	Shanghai Huitian New Chemical Co., Ltd.	5299W-S	Silicone Color: white or black	-
	Suzhou Tonsan Adhesive Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521	Silicone Color: white or black	-
Bypass diodes	Yangzhou Yangjie Electronic Technology Co., Ltd.	GF3045MG	Tj max = 200°C If = 30A for PVJB-TW-S/00A (A=1)	-
	Changzhou Starsea Electronics Co., Ltd.	PST6020	Tj max = 200°C If = 20A for PVJB-TW-S/00A (A=1)	-
	Hangzhou Lion Microelectronics Co., Ltd.	THY2550	Tj max = 200°C If = 25A for PVJB-TW-S/00A (A=1)	-
	Changzhou Starsea Electronics Co., Ltd.	PV4045D	Tj max = 200°C If = 40A for PVJB-TW-S/00A (A=2)	-
	Zhejiang Renhe Photovoltaic Technology Co., Ltd. / Changzhou Starsea Electronics Co., Ltd.	PST5040D	Tj max = 200°C If = 50A for PVJB-TW-S/00A (A=2)	-
	Hangzhou Lion Microelectronics Co., Ltd.	THY4050	Tj max = 200°C If = 40A for PVJB-TW-S/00A (A=2)	-
	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	SB3045DY	Tj max = 200°C If = 30A for PVJB-TW-S/00A (A=2)	-
	Panjit Electronics (wuxi) CO., LTD	SB3045DY	Tj max = 200°C If = 30A for PVJB-TW-S/00A (A=2)	-
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50318681

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Object	Manufacturer	Type	Technical Data	Remark
	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50330654
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50334928
	Ningbo Kibor Wire&Cable Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50302047
	Wuxi Xinhongye Wire&Cable Co., Ltd.	H1Z2Z2-K 1 x 4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50311889
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated voltage = 1500VDC Rated current = 30A	Certificate no. R 50284449
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR PV-KBT4-EVO 2/xy_UR	Rated Voltage = 1500VDC Rated Current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Zhejiang Renhe Photovoltaic Technology Co., Ltd. (Only equipped with PV cable TÜV R 50318681)	RHC2xyzu	Rated Voltage = 1500VDC Rated Current = 35A (4.0mm ²)	Certificate no.: R 50473621
Junction box set 3#				
Junction box	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	JM06x	Max. Voltage=1500 V (DC) Rated current = 15 A for (x=A) Rated current = 20 A for (x=C) RTI = 110°C Number of diodes: 2	Certificate No. 44 780 22 406749 - 001M1 issued by TÜV NORD
Adhesive (junction box)	Beijing Tonsan New Material Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 9, 10, 12, 20, 27, 28
	Shanghai Huitian New Chemical Material Co.,Ltd	HT906Z	-	Combine with rear cover 2, 9, 10, 12, 20, 27, 28
	Jiangsu Tianchen New Materials Co., Ltd	HT8258	-	Combine with rear cover 2, 9, 10, 12, 20, 27, 28
Potting material	Beijing Tonsan New Material Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521	-	-
	Shanghai Huitian New Chemical Material Co.,Ltd	5299W-S	-	-
	Jiangsu Tianchen New Materials Co., Ltd	HT6360	-	-
Bypass diodes	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	THY4050	Tj max = 200°C If = 40A	-

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Object	Manufacturer	Type	Technical Data	Remark
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	THY2550	Tj max = 200°C If = 25A	-
Cable	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC Cross section = 4.0mm ²	Certificate no. R50507377
Connectors	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM608	Rated voltage = 1500VDC Rated current = 41A	Certificate no. R 50374980
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM601A	Rated voltage = 1500VDC Rated current = 41A	Certificate no. R 50332967
	Staubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR (male); PV-KBT4-EVO 2/xy_UR (female)	Rated voltage = 1500VDC Rated current = 45A(4.0mm ²)	Certificate no. R 60127169
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated voltage = 1500VDC Rated current = 35A(4.0mm ²)	Certificate no. R 50473621
Junction box set 4 (only for PV modules with 7" and 8" solar cells)				
Junction box	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT20xv (x = 1, 2, 3 or A; v = W)	Rated Voltage = 1500VDC Rated current = 25A Reverse current = 41A RTI = 125°C Number of diodes: 3	Certificate no. R 50363460
Adhesive (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 6, 8, 10, 20
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 6, 8, 10, 20
	GOLOHO Chemical Industrial Limited	GOLOHO63	-	Combine with rear cover 6, 10, 20
	LIYANG KANGDAWEI INDUSTRIAL CO., LTD	KDW 1536	-	Combine with rear cover 8
	DOW CORNING	PV-804	-	Combine with rear cover 9, 10, 20, 27
	DOW CORNING	PV-8007	-	Combine with rear cover 10, 20
	JIANGSU TIANSHENG NEW MATERIALS SCIENCE AND TECHNOLOGY CO., LTD.	TS-688	-	Combine with rear cover 10, 20
	Momentive Performance Materials	RTV 3642	-	Combine with rear cover 10, 20

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Object	Manufacturer	Type	Technical Data	Remark
	Hangzhou Zhijiang Silicone Chemicals CO., LTD.	JS-606	-	Combine with rear cover 10, 20
Potting material	Beijing Tonsan New Materials and Tchnology Co., Ltd.	1521	-	-
	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	Beijing Tonsan New Materials and Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1533	-	-
	DOW CORNING	PV-7326	-	-
	Jiangsu Crevo Science & Technology Co., Ltd. Sika (Jiangsu) Industrial Material Ltd.	CV315	-	-
Bypass diodes	Yangzhou Yangjie Electronic Technology Co., Ltd.	PST5040D	Tj max = 200°C If = 40A	-
	Yangzhou HY Technology Development Co., Ltd.			
	ChangZhou Star Sea Electronics Co., Ltd.			
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	H1Z2Z2-K	Rated voltage = 1500VDC	Certificate no. R 50318681
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no. R 50452023
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated current = 30 A	Certificate no. R 50334688
	Amphenol Technology (Shenzhen) Co., Ltd.	H4CFC4DMS; H4CMC4DMS	Rated current = 35A	Certificate no. R 50388083
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd; UTXCMabcd	Rated current = 35A	Certificate no. R 50340393
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A (4.0mm ²)	Certificate no. R 60127169
	Tyco Electronics (Shanghai) Co., Ltd.	PV4-S1yx (y=F or M; x=2.5 or 4.0)	Rated current = 40A (x=2.5); 40A (x=4.0)	Certificate no. R 50372137
	Hanwha Q CELLS (Qidong) Co., Ltd	HQC4	Rated current = 30A	Certificate no. R 50385866
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated current = 35A (4.0mm ²)	Certificate no. R 50473621

Confirmation of the applicant
Hefei, 12/13/2023 (Place and date)



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Confirmation of TÜV NORD CERT
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Carra Chen

(Signature of authorized TÜV NORD CERT engineer)

Object	Manufacturer	Type	Technical Data	Remark
Junction box set 5 (only for PV modules with 7" and 8" solar cells)				
Junction box	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	JB12x (x=A-25 or S1)	Rated Voltage = 1500VDC Rated Current = 25A (for x=A-25) or 30A (for x=S1) Reverse Current = 54A RTI = 110°C Number of diodes: 2 (for PV modules with 8" solar cell segmented into 7 pieces) or 3 (for others)	Certificate no.: R 50377301
Adhesive (junction box)	Suzhou TONSAN Adhesive Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 6, 9, 10, 20, 27
	Shanghai Huitian New Material Co., Ltd	HT906Z	-	Combine with rear cover 5, 8, 9, 27
	Jiangsu Tianchen New Materials Co., Ltd.	HT8258	-	Combine with rear cover 9, 27
Potting material	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT6360	-	-
	Goloho Chemical Industrial Ltd.	GOLOHO-313-AB	-	-
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-1184	-	-
	Suzhou TONSAN Adhesive Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1533	-	-
	ZHENGZHOU ZHONGYUAN SILANDE HIGH TECHNOLOGY CO., LTD	MF962L	-	-
	Shanghai Huitian New Material Co., Ltd	5299W-S	-	-
	Beijing Tonsan New Material Technology Co., Ltd.	1521	-	-
	GUANGZHOU BAIYUN CHEMICAL INDUSTRY CO., LTD.	SKF323 (only for x=A-25)	-	-
Bypass diodes (for x=A-25)	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	UKTH4545-12/ TM3045-25	Tj max = 200°C If = 30A	-
Bypass diodes (for x=S1)	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	UKTH3045-13	Tj max = 200°C If = 30A	-
Cable	Ningbo Kibor Wire & Cable Co., Ltd.	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50302047

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Object	Manufacturer	Type	Technical Data	Remark	
	Wuxi Xinhongye Wire & Cable Co., LTD.	62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50413678	
		H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50311889	
	Trina Solar Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50439595	
		HALOGEN FREE LOW SMOKE			
	Changshu JHOSIN Communication Technology Co., Ltd.	H1Z2Z2-K 1X4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50426462	
		62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50413335	
	SUZHOU YONGHAO CABLE CO LTD	HALOGEN FREE LOW SMOKE			
		H1Z2Z2-K 1X4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50325448	
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50401233	
		HALOGEN FREE LOW SMOKE			
	Connectors	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	H1Z2Z2-K 1X4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50379270
			62930 IEC 131 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no.: R 50452023
	Connectors	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	PV-CO02-xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 50390097
		Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M-2	Rated voltage = 1500VDC Rated current = 30A	Certificate no.: R 50318165
Stäubli Electrical Connectors AG		PV-KST4-EVO 2/xy_UR PV-KBT4-EVO 2/xy_UR	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169	
Stäubli Electrical Connectors AG		PV-KST4- EVO2A/xy PV-KBT4- EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169	
Trina Solar Co., Ltd.		TS4-xz (z=2)	Rated voltage = 1500VDC Rated current = 41A	Certificate no.: R 50385924	

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Object	Manufacturer	Type	Technical Data	Remark
	Trina Solar Co., Ltd.	TS4	Rated voltage = 1500VDC Rated current = 41A	Certificate no.: R 50401767
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rate current = 35A	Certificate no.: R 50473621
	Zerun Co., LTD.	Z4S-abcd	System voltage = 1500VDC Rated current = 40A	Certificate no.: R 50495771
	Tyco Electronics Austria GmbH	PV4-S1yx (y=F or M; x=4.0)	Rated current = 40A	Certificate no.: R 60148776
Junction box set 6 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	JM37xy (x=A, y=A or B or C)	Rated Voltage = 1500VDC Rated Current = 20A for (y=A), 25A (for y=B) or 30A (for y=C) Reverse Current = 41A RTI = 110°C Number of diodes: 3	Certificate no.: R 50541405
Adhesive (junction box)	Beijing Tonsan New Chemical Material Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 9, 27, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 28
	Hangzhou Zhijiang Silicone Chemicals CO., LTD.	JS-606	-	Combine with rear cover 2, 28
	Jiangsu Tianchen New Materials Co., Ltd.	HT8258	-	Combine with rear cover 9, 27
Potting material	Beijing Tonsan New Material Technology Co., Ltd. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521	-	-
	Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
Bypass diodes (for y=A)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	MK3050	Tj max = 200°C If = 30A	-
Bypass diodes (for y=B)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	MK4050	Tj max = 200°C If = 40A	-
Bypass diodes (for y=C)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	MK5050	Tj max = 200°C If=50A	-
Cable	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated Voltage = 1500VDC	Certificate no.: R 50507377

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Object	Manufacturer	Type	Technical Data	Remark
Connectors	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM601A	Rated Current = 41A	Certificate no.: R 50332967
	Stäubli Electrical Connectors AG	PV-KST4-EVO2/xy_UR (male); PV-KBT4-EVO2/xy_UR (female)	Rated Current = 45A (4mm ²)	Certificate no.: R 60127169
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM608	Rated Current = 41A	Certificate no.: R 50374980
	Amphenol Technology (Shenzhen) Co., Ltd.	H4Cabdcdef(c=4)(b=B, M or N)	Rated Current = 35A	Certificate no.: R 50388083
Junction box set 7 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT60xy (x = 2, y = B or D)	Rated Voltage = 1500VDC Rated current = 30A Reverse current = 41A RTI = 110°C Number of diodes: 3	Certificate no. R 50497914
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 4, 6, 8, 9, 10, 11, 15, 20, 23, 26, 27, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 4, 6, 8, 9, 10, 11, 14, 15, 20, 23, 26, 27, 28, 30
	GOLOHO Chemical Industrial Limited	GOLOHO63	-	Combine with rear cover 10, 20
	LIYANG KANGDAWEI INDUSTRIAL CO., LTD	KDW 1536	-	Combine with rear cover 8
	DOW CORNING	PV-804	-	Combine with rear cover 10, 20
	JIANGSU TIANSHENG NEW MATERIALS SCIENCE AND TECHNOLOGY CO., LTD.	TS-688	-	Combine with rear cover 10, 20
	DOW CORNING	PV-8007	-	Combine with rear cover 10, 20
	Momentive Performance Materials	RTV 3642	-	Combine with rear cover 10, 20
	Hangzhou Zhijiang Silicone Chemicals CO., LTD.	JS-606	-	Combine with rear cover 2, 4, 6, 9, 10, 11, 20, 26, 27, 28
	Guangzhou Baiyun Chemical Industry Co., Ltd.	SMG533	-	Combine with rear cover 11
	Shanghai Huitian New Chemical Co., Ltd.	9661	-	Combine with rear cover 14, 30

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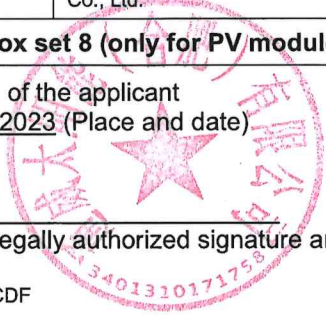


Object	Manufacturer	Type	Technical Data	Remark
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE, INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533	-	-
	Jiangsu Crevo Science & Technology Co., Ltd. Sika (Jiangsu) Industrial Material Ltd.	CV315	-	-
Bypass diodes	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RMK4555D	Tj max = 200°C If = 45A	-
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RMK4545D	Tj max = 200°C If = 45A	-
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RMK4550D	Tj max = 200°C If = 45A	-
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	H1Z2Z2-K 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50318681
	Trina Solar Co., Ltd.	H1Z2Z2-K 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50426462
	Trina Solar Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50451199
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50452023
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated current = 30 A	Certificate no.: R 50334688
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd; UTXCMabcd	Rated current = 35A	Certificate no.: R 50340393
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Tyco Electronics (Shanghai) Co., Ltd.	PV4-S1yx (y=F or M; x=4.0)	Rated current = 40A (x=4.0)	Certificate no.: R 50372137
	Trina Solar Co., Ltd.	TS4-xz(x=1, z=2)	Rated current = 41A (4.0mm ²)	Certificate no.: R 50385924
	Phoenix Contact GmbH & Co.KG	PV-CF-C-2,5- 4-SETxxxx PV-CM-C-2,5- 4-SETxxxx	Rated current = 30A (4.0mm ²)	Certificate no.: R 60126961
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated current = 35A (4.0mm ²)	Certificate no.: R 50473621

Junction box set 8 (only for PV modules with 7" and 8" mono cells)

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Object	Manufacturer	Type	Technical Data	Remark
Junction box	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT70xy (x = 1, 2, 3 or 4, y = B, D, F or H)	Rated Voltage = 1500VDC Rated current = 25A for (x = 1), 28A for (x = 2), 30A for (x = 3), 35A for (x=4) Reverse current = 54A RTI = 110°C Number of diodes: 3 for (y=B or D); 2 for (y=F or H)	Certificate no. R 50527912
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 8, 9,10,15, 20, 23, 27, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 8, 9, 10, 15, 20, 23, 27, 28
	LIYANG KANGDAWEI INDUSTRIAL CO., LTD	KDW 1536	-	Combine with rear cover 2, 8, 15, 23, 28
	Jiangsu Tianchen New Materials Co., Ltd	HT8258	-	Combine with rear cover 2, 8, 9, 10, 20, 27, 28
	GOLOHO Chemical Industrial Limited	GOLOHO63	-	Combine with rear cover 10, 20
	DOW CORNING	PV-804	-	Combine with rear cover 10, 20
	JIANGSU TIANSHENG NEW MATERIALS SCIENCE AND TECHNOLOGY CO., LTD.	TS-688	-	Combine with rear cover 10, 20
	DOW CORNING	PV-8007	-	Combine with rear cover 10, 20
	Momentive Performance Materials	RTV 3642	-	Combine with rear cover 10, 20
	Hangzhou Zhijiang Silicone Chemicals CO., LTD.	JS-606	-	Combine with rear cover 2, 9, 10, 20, 27, 28
	Shen Zhen Evopute Industry Material Co., Ltd.	5219	-	Combine with rear cover 2, 10, 20, 28
	Sika (Jiangsu) Industrial Material Ltd.	CREVO709	-	Combine with rear cover 9, 10, 15, 20, 23, 27
Sika (Jiangsu) Industrial Material Ltd.	CV709	-	Combine with rear cover 9, 10, 15, 20, 23, 27	
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533	-	-
	Guangzhou Baiyun Chemical Industry Co., Ltd	SKF323	-	-
	Liyang Kangdawei Industrial Co., Ltd	KDW-3582	-	-
	Jiangsu Tianchen New Materials Co., Ltd	HT6360	-	-

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Object	Manufacturer	Type	Technical Data	Remark
	Sika (Jiangsu) Industrial Material Ltd.	CV315	-	-
Bypass diodes (for x=1)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	PS35TA	Tj max = 200°C If = 35A	-
Bypass diodes (for x=2)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	PS40TA	Tj max = 200°C If = 40A	-
Bypass diodes (for x=3)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	PS50TA	Tj max = 200°C If = 50A	-
Bypass diodes (for x=4)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	PS50TD	Tj max = 200°C If = 50A	-
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50452023
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated current = 30 A	Certificate no.: R 50334688
				Certificate no.: R 50512443
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd; UTXCMabcd	Rated current = 35A	Certificate no.: R 50340393
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO2A/xy PV-KBT4-EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169
	Tyco Electronics (Shanghai) Co., Ltd.	PV4-S1yx (y=F or M; x=4.0)	Rated current = 40A (x=4.0)	Certificate no.: R 60148776
	Trina Solar Co., Ltd.	TS4-xz(x=1, z=2)	Rated current = 41A (4.0mm ²)	Certificate no.: R 50385924
	Phoenix Contact GmbH & Co.KG	PV-CF-C-2,5-4-SETxxx PV-CM-C-2,5-4-SETxxx	Rated current = 30A (4.0mm ²)	Certificate no.: R 60126961
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated current = 35A (4.0mm ²)	Certificate no.: R 50473621
Junction box set 9 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	PV-ZH011C-5xyz (x = 1 or 2, y = B, z = 2 or 3)	Rated Voltage = 1500VDC Rated current = 25A for (z = 2), 30A for (z = 3) Reverse current = 45A RTI = 110°C Number of diodes: 3 for (x=1); 2 for (x=2)	Certificate no. R 50505349
Adhesive (junction box)	Shanghai Huitian New Chemical Material Co., Ltd.	9661	-	Combine with rear cover 10, 20

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Object	Manufacturer	Type	Technical Data	Remark
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-606	-	Combine with rear cover 10, 20
	Sika (Jiangsu) Industrial Material Ltd.	CREVO709	-	Combine with rear cover 10, 20
	H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1527	-	Combine with rear cover 9, 27
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 8, 10, 20
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1533	-	-
Bypass diodes (for z=2)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	35SQ045	Tj max = 200°C If = 35A	-
Bypass diodes (for z=3)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	40SQ045	Tj max = 200°C If = 40A	-
Bypass diodes (for z=2)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	35SQ045-ST	Tj max = 200°C If = 35A	-
Bypass diodes (for z=3)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	40SQ045-ST	Tj max = 200°C If = 40A	-
Cable	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	62930 IEC 131 1x4.0mm ² , 1x6.0mm ²	Rated Voltage = 1500VDC	Certificate no.: R 50436635
Connectors	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	PV-ZH202B	Rated current = 40A	Certificate no.: R 50350557
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO2A/xy PV-KBT4-EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169
	Hanwha Q CELLS (Qidong) Co., Ltd.	HQC4	Rated current = 30A	Certificate no.: R 50385866
Junction box set 10 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	JM07w (w=Blank, L, R, S, 6, 7, 8, 9, 10 or 11)	Rated Voltage = 1500VDC Rated current = 20A for (x = blank, L, 6, 9), 25A for (x = R, S, 7, 10), 30A for (x = 8, 11) Reverse current = 41A Number of diodes: 3 or 2	Certificate no. R 50529604
Adhesive (junction box)	Guangzhou Baiyun Chemical Industry Co., Ltd	SMG533	-	Combine with rear cover 2, 10, 20
	TONSAN ADHESIVE INC. H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1527	-	Combine with rear cover 2, 9, 10, 15, 16, 20, 23, 24, 27, 28

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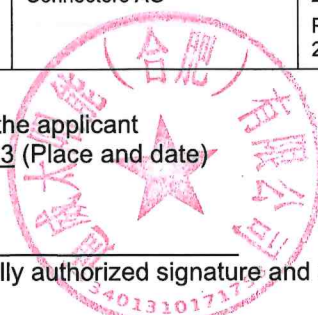
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Object	Manufacturer	Type	Technical Data	Remark
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 4, 9, 10, 15, 16, 20, 23, 24, 26, 27, 28
	Chengdu Guibao Science & Technology Co., Ltd.	888A	-	Combine with rear cover 2, 28
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-606	-	Combine with rear cover 2, 4, 9, 10, 15, 16, 20, 23, 24, 26, 27, 28
	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT8258		Combine with rear cover 9, 10, 15, 16, 20, 23, 24, 27
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE INC. H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1521 1533	-	-
	Chengdu Guibao Science & Technology Co., Ltd.	4808	-	-
	Guangzhou Baiyun Chemical Industry Co., Ltd	SKF323	-	-
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-1184	-	-
Bypass diodes (for x=blank, L)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	THY2550(3) THY2550(1) THY2550(4)	Tj max = 200°C If = 25A	-
Bypass diodes (for x=R, S)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	THY4050 SBT4050DY	Tj max = 200°C If = 40A	-
Bypass diodes (for x=6)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	RT3050	Tj max = 200°C If = 30A	-
Bypass diodes (for x=7)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	RT3550	Tj max = 200°C If = 35A	-
Bypass diodes (for x=8)	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	RT4550	Tj max = 200°C If = 45A	-
Cable	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50507377
Connectors	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM601A	Rated current = 41A	Certificate no.: R 50332967
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	PV-JM608	Rated current = 41A	Certificate no.: R 50374980
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A	Certificate no.: R 60127169

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Object	Manufacturer	Type	Technical Data	Remark
Junction box set 11 (only for PV modules with 7" and 8" mono cells)				
Junction box	QC Solar (Suzhou) Corporation	3Qxy (x=1, 2, 3, 4, 5, y=1, 2, 3, 4)	Rated Voltage = 1500VDC Rated Current = 20A or 22A or 25A or 30A or 35A Number of diodes: 3	Certificate no.: R 50510013
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1527	-	Combine with rear cover 2, 4, 10, 17, 20, 26, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 10, 17, 19, 20, 28, 29
	Jiangsu Minghao New Material Technology Co., Ltd.	MH-3668	-	Combine with rear cover 2, 10, 20, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE INC. H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1521 1533	-	-
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-1184	-	-
	Jiangsu Minghao New Material Technology Co., Ltd.	MH-3667	-	-
Bypass diodes (for x=1, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM2545	Tj max = 200°C If = 25A	-
Bypass diodes (for x=2, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM3045	Tj max = 200°C If = 30A	-
Bypass diodes (for x=3, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM4045	Tj max = 200°C If = 40A	-
Bypass diodes (for x=4, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM5045	Tj max = 200°C If = 50A	-
Bypass diodes (for x=4, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM5045B	Tj max = 200°C If = 50A	-
Bypass diodes (for x=1, y=4)	QC Solar (Suzhou) Corporation	20SQ050	Tj max = 200°C If = 20A	-
Bypass diodes (for x=3, y=4)	QC Solar (Suzhou) Corporation	30SQ050A	Tj max = 200°C If = 30A	-
Bypass diodes (for x=4, y=4)	QC Solar (Suzhou) Corporation	40SQ045	Tj max = 200°C If = 40A	-
Bypass diodes (for x=5, y=1 or 2 or 3)	QC Solar (Suzhou) Corporation	QCM6045	Tj max = 200°C If = 60A	-

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Object	Manufacturer	Type	Technical Data	Remark
Cable	QC Solar (Suzhou) Corporation	62930 IEC 131 1x4.0mm ²	Rated Voltage = 1500VDC	Certificate no.: R 50447239
Connectors	QC Solar (Suzhou) Corporation	QC4.10-cds (c=3 or 4; d=4 or 5 or 6 or 7 or 8; s=blank or 1)	Rated Voltage = 1500VDC Rated Current = 41A	Certificate no.: R 50505605
	Staubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR (male)	Rated Voltage = 1500VDC Rated Current = 45A	Certificate no.: R 60127169
		PV-KBT4-EVO 2/xy_UR (female)	Rated Voltage = 1500VDC Rated Current = 45A	Certificate no.: R 60127169
	Tyco Electronics Austria GmbH	PV4-S1yx	Rated Voltage = 1500VDC Rated Current = 40A	Certificate no.: R 60148776
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcde; UTXCMabcde (a=A, b=4, c=A to Z, e=Blank or A or Z)	Rated Voltage = 1500VDC Rated Current = 35A	Certificate no.: R 50340393
Junction box set 12 (only for PV modules with 7" and 8" mono cells)				
Junction box	Ningbo Minghe New Energy Technology Co., Ltd.	MH2z (z=1 or 2 or 3 or 4)	Rated Voltage = 1500VDC Rated current = 20A for (z=1), 22A for (z=2), 25A for (z=3), 30A for (z=4) Reverse current = 41A Number of diodes: 3	Certificate no. R 50527916
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. Fuller (Suzhou) Advanced Material Co., Ltd.	1527	-	Combine with rear cover 2, 10, 20, 28
	Jiangsu Tianchen Silicon Material Co., Ltd.	HT-8258	-	Combine with rear cover 2, 10, 20, 28
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-606	-	Combine with rear cover 2, 10, 20, 28
	Sika (Jiangsu) Industrial Material Ltd.	CV709	-	Combine with rear cover 2, 10, 20, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 10, 20, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-1184	-	-
Bypass diodes (for z=1)	Yangzhou Yangjie Electronic Co., Ltd.	25SQ045	Tj max = 200°C If = 20A	-
Bypass diodes (for z=2)	Yangzhou Yangjie Electronic Co., Ltd.	30SQ045	Tj max = 200°C If = 22A	-

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Object	Manufacturer	Type	Technical Data	Remark
Bypass diodes (for z=3)	Yangzhou Yangjie Electronic Co., Ltd.	30SQ045-SL	Tj max = 200°C If = 30A	-
Bypass diodes (for z=4)	Yangzhou Yangjie Electronic Co., Ltd.	40SQ045	Tj max = 200°C If = 40A	-
Cable	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50439595
	Ningbo Kibor Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50413678
Connectors	Ningbo Minghe New Energy Technology Co., Ltd.	PV-MH5	Rated current = 41A	Certificate no.: R 50528808
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 41A	Certificate no.: R 60127169
Junction box set 13 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT50xy (x=4, 5, 6, 8, 9 or B, y=B, D, F, H or K)	Rated Voltage = 1500VDC Rated current = 25A for (x=4 or 8), 28A for (x=5), 30A for (x=6 or 9), 35A for (x=B) Reverse current = 48A Number of diodes: 3	Certificate no. R 50415465
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 10, 20, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 10, 20, 28
	Jiangsu Tianchen Silicon Material Co., Ltd.	HT-8258	-	Combine with rear cover 8
	GOLOHO Chemical Industrial Limited	GOLOGO63	-	Combine with rear cover 10, 20
	DOW CORNING	PV804 PV-8007	-	Combine with rear cover 10, 20
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-606	-	Combine with rear cover 10, 20
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533	-	
	Guangzhou Baiyun Chemical Industry Co., Ltd.	SKF323	-	
	Liyang Kandawei Industrial Co., Ltd.	Kdw-3582	-	
	Jiangsu Tianchen Silicon Material Co., Ltd.	HT6360	-	-

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Object	Manufacturer	Type	Technical Data	Remark
Bypass diodes (for x=4)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FMK5040D FMK4545D FMK4560T	Tj max = 200°C	-
Bypass diodes (for x=5)	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FMK3040P	Tj max = 200°C	-
Bypass diodes (for x=6)	Yangzhou Yangjie Electronic Co., Ltd.	FMK5060D	Tj max = 200°C	-
Bypass diodes (for x=8)	Yangzhou Yangjie Electronic Co., Ltd.	MK4045	Tj max = 200°C	-
Bypass diodes (for x=9)	Yangzhou Yangjie Electronic Co., Ltd.	MK5045	Tj max = 200°C	-
Bypass diodes (for x=B)	Yangzhou Yangjie Electronic Co., Ltd.	MK6045	Tj max = 200°C	-
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50452023
	Trina Solar Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50451199
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-8	Rated current = 30A	Certificate no.: R 50334688
	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd; UTXCMabcd	Rated current = 35A	Certificate no.: R 50340393
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2A/xy_UR; PV-KBT4-EVO 2A/xy_UR	Rated current = 41A	Certificate no.: R 60127169
	Trina Solar Co., Ltd.	TS4-xz	Rated current = 41A	Certificate no.: R 50385924
	Phoenix Contact GmbH & Co., KG	PV-CF-C-2, 5- 4-SETxxxx PV-CM-C-2, 5- 4-SETxxxx	Rated current = 30A	Certificate no.: R 6126961
	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated current = 35A	Certificate no.: R 50473621
Junction box set 14 (only for PV modules with 7" and 8" mono cells)				

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Object	Manufacturer	Type	Technical Data	Remark
Junction box	Jiangsu Tongling Electric Co., Ltd.	TL-BOX022.3-A-2-1xyzF TL-BOX022.3-A-2-2xf TL-BOX022.3-A-2-3xyzF TL-BOX022.3-B-2-1xyzF TL-BOX022.3-B-2-2xf TL-BOX022.3-B-2-3xyzF	Rated Voltage = 1500VDC Rated current = 20A for (x=3), 25A for (x=4) Reverse current = 41A Number of diodes: 3	Certificate no. R 50539999
Adhesive (junction box)	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 28
	TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533		
Bypass diodes (for x=3)	Jiangsu Tongling Electric Co., Ltd.	PT001B-SH	Tj max = 200°C	-
Bypass diodes (for x=4)	Jiangsu Tongling Electric Co., Ltd.	PT001B-HS	Tj max = 200°C	-
Cable	Suzhou Baohing Electric Wire & Cable Manufacturer Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50464210
	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50439595
	Changshu JHOSIN Communication Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50413335
	Jiangsu Tongling Electric Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50462100
Connectors	Amphenol Technology (Shenzhen) Co., Ltd.	UTXCFabcd; UTXCMabcd	Rated current = 42A	Certificate no.: R 50340393
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 35A	Certificate no.: R 60127169
	Jiangsu Tongling Electric Co., Ltd.	TL-CABLE01S-F TL-CABLE01S	Rated current = 41A	Certificate no.: R 50514839
	Trina Solar Co., Ltd.	BIGabc4efgh	Rated current = 41A	Certificate no.: R 50524455

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Object	Manufacturer	Type	Technical Data	Remark
	Hanwha Q CELLS (Qidong) Co., Ltd.	HQC4	Rated current = 30A	Certificate no.: R 50385866
Junction box set 15 (only for PV modules with 7" and 8" mono cells)				
Junction box	Tongwei Solar (Hefei) Co., Ltd.	PVJB-TW-ab (a=2 or 3, b=2or 3)	Rated Voltage = 1500VDC Rated current = 25A for (b=2), 30A for (b=3) Reverse current = 54A Number of diodes: 3	Certificate no. R 50559635
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 9, 10, 20, 27, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 9, 10, 20, 27, 28
	Jiangsu Tianchen New Material Co., Ltd.	HT8258	-	Combine with rear cover 2, 9, 10, 20, 27, 28
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-606	-	Combine with rear cover 2, 9, 27, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	TONSAN ADHESIVE INC or H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521 1533	-	-
	Jiangsu Tianchen New Material Co., Ltd.	HT-6360	-	-
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS-1184	-	-
Bypass diodes (b=2)	Changzhou Star Sea Electric Co., Ltd. Yangzhou Yangjie Electric Technology Co., Ltd. Hangzhou Daoming Microelectronics Technology Co., Ltd. Anhui Juxin Semiconductor Technology Co., Ltd. Yangzhou Hongyang Electronics Co., Ltd.	35SQ045	Tj max = 200°C	-
Bypass diodes (b=3)	Changzhou Star Sea Electric Co., Ltd. Yangzhou Yangjie Electric Technology Co., Ltd. Hangzhou Daoming Microelectronics Technology Co., Ltd. Anhui Juxin Semiconductor Technology Co., Ltd. Yangzhou Hongyang Electronics Co., Ltd.	40SQ045	Tj max = 200°C	-

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Object	Manufacturer	Type	Technical Data	Remark
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50452023
	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50439595
	Ninbo Kibor Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50413678
	Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50507377
	Zhejiang Zhonghuan Sunter PV Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50436635
Connectors	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	Rated current = 35A	Certificate no.: R 50473621
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2A/xy_UR; PV-KBT4-EVO 2A/xy_UR	Rated current = 45A	Certificate no.: R 60127169
	Ningbo Minghe New Energy Technology Co., Ltd.	PV-MH5	Rated current = 41A	Certificate no.: R 50528808
	Zhejiang Jiaming Tianheyuan Photovoltaic Technology Co., Ltd.	PV-JM608	Rated current = 41A	Certificate no.: R 50374980
	Zhejiang Zhonghuan Sunter PV Photovoltaic Technology Co., Ltd.	PV-ZH202B	Rated current = 40A	Certificate no.: R 50350557
Junction box set 16 (only for PV modules with 7" and 8" mono cells)				
Junction box	Suzhou Xietong Photovoltaic Technology Co., Ltd.	PV-XT1609Nxyz	Rated Voltage = 1500VDC Rated current = 25A or 30A or 35A Reverse current = 48A Number of diodes: 3	Certificate no. B 076061 Rev.04
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 28
	Liyang Kangdawei Industry Co., Ltd.	KDW-1536	-	Combine with rear cover 2, 28
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-

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Object	Manufacturer	Type	Technical Data	Remark
	TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521	-	-
	Liyang Kangdawei Industry Co., Ltd.	KDW-3582	-	-
Bypass diodes	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT3050A	Tj max = 200°C	-
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT4050M-A	Tj max = 200°C	-
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT4050M-B	Tj max = 200°C	-
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT4550M-A	Tj max = 200°C	
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT4550M-B	Tj max = 200°C	
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT5050M-A	Tj max = 200°C	
	Suzhou Xietong Photovoltaic Technology Co., Ltd.	XT5050M-B	Tj max = 200°C	
Cable	Suzhou Xietong Photovoltaic Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50453577
	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50439595
Connectors	Suzhou Xietong Photovoltaic Technology Co., Ltd.	PV-XT101.1	Rated current = 35A	Certificate no.: R 50385354
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2A/xy_UR; PV-KBT4-EVO 2A/xy_UR	Rated current = 45A	Certificate no.: R 60127169
Junction box set 17 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	PV-ZH011C- 3K PV-ZH011C- 3H PV-ZH011C-5	Rated Voltage = 1500VDC Rated Current = 18A (for PV-ZH011C-5); 22A (for PV-ZH011C-5); 25A (for PV- ZH011C-5); 30A (for PV-ZH011C-3K, PV-ZH011C-3H, PV-ZH011C-5) Number of diodes: 3 or 2	Certificate no.: B 082630 0028 Rev. 00

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Object	Manufacturer	Type	Technical Data	Remark
Adhesive (junction box)	TONSAN ADHESIVE INC. H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 4, 6, 10, 15, 18, 20, ,21, 23, 26, 28
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 4, 6, 10, 14, 15, 18, 20, ,21, 23, 26, 28
	Goloho Chemical Industry Ltd.	GOLOHO-63	-	Combine with rear cover 4, 10, 20, 26
	Jiangsu Tiancheng Silicon Co., LTD.	TS-688	-	Combine with rear cover 4, 10, 20, 26
	HangZhou Zhijiang Silicone Chemicals CO., LTD	JS606	-	Combine with rear cover 4, 10 ,20, 26
	Jiangsu CREVO Science & Technology Co., Ltd	CV709	-	Combine with rear cover 4, 10, 20, 26
	Jiangsu CREVO Science & Technology Co., Ltd	CREVO709	-	Combine with rear cover 10, 20
	Sika India Pvt. Ltd.	Sika AS 60 CN	-	Combine with rear cover 4, 10, 20, 26
	Jiangsu Tianchen Silicon Materials Co., Ltd.	HT-8258	-	Combine with rear cover 4, 10, 15, 18, 20, ,21, 23, 26
	Guangzhou Baiyun Chemical Industry Co., Ltd	SMG533	-	Combine with rear cover 4, 6, 10, 20, 26
	CHENDU GUIBAO SCIENCE&TECHNOLOGY CO., LTD.	888A	-	Combine with rear cover 2, 4, 10, 20, 26, 28
	Suzhou Datong Advanced Materials Co., Ltd.	TT600	-	Combine with rear cover 4, 10, 20, 26
	Shanghai Huitian New Chemical Material Co., Ltd.	9661	-	Combine with rear cover 4, 10, 15,18, 20, ,21, 23, 26
	Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-
TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD		1521 1533	-	-
Jiangsu CREVO Science & Technology Co., Ltd		CV315	-	-
Hangzhou Zhijiang Silicone Co., Ltd.		JS-1184	-	-
Jiangsu Tianchen Silicon Material Co., Ltd.		HT-6360A/B	-	-
Guangzhou Baiyun Chemical Industry Co., Ltd.		SKF323	-	-
CHENDU GUIBAO SCIENCE&TECHNOLOGY CO., LTD.		4808	-	-

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Object	Manufacturer	Type	Technical Data	Remark
	Suzhou Datong Advanced Materials Co., Ltd.	TT700J	-	-
Bypass diodes (for PV-ZH011C-3K; PV-ZH011C-3H)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	SKT5045F	Tj max = 200°C Rated current = 30A	-
Bypass diodes (for PV-ZH011C-5)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	25SQ045	Tj max = 200°C Rated current = 18A	-
Bypass diodes (for PV-ZH011C-5)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	30SQ045	Tj max = 200°C Rated current = 22A	-
Bypass diodes (for PV-ZH011C-5)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	35SQ045	Tj max = 200°C Rated current = 25A	-
Bypass diodes (for PV-ZH011C-5)	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	40SQ045	Tj max = 200°C Rated current = 30A	-
Cable	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50436635
Connectors	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	PV-ZH202B	Rated current = 40A	Certificate no.: B 082630 0021
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2A/xy_UR; PV-KBT4-EVO 2A/xy_UR	Rated current = 45A	Certificate no.: R 60127169
	Jiangxi Jinko PV Material Co., Ltd.	PV- JK03M2/xy(Plu g+Socket)	Rated Voltage = 1500VDC Rated Current = 45A (4mm ²)	Certificate no.: B 112370 0005 Rev.01
Junction box set 18 (only for PV modules with 7" and 8" mono cells)				
Junction box	Jiangsu Tongling Electric Co., Ltd.	TL-BOX022.3-A-2-1xyzF TL-BOX022.3-A-2-2xF TL-BOX022.3-A-2-3xyzF TL-BOX022.3-B-2-1xyzF TL-BOX022.3-B-2-2xF TL-BOX022.3-B-2-3xyzF	Rated Voltage = 1500VDC Rated current = 20A or 25A or 30A Reverse current = 41A Number of diodes: 3	Certificate no. B 079881 0008
Adhesive (junction box)	TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1527	-	Combine with rear cover 2, 28
Potting material	TONSAN ADHESVE INC H.B. FULLER (SUZHOU) ADVANCED MATERIAL CO., LTD	1521	-	-

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Object	Manufacturer	Type	Technical Data	Remark
Bypass diodes	Jiangsu Tongling Electric Co., Ltd.	PT001B-SH	Tj max = 200°C	-
		PT001B-SHL	Tj max = 200°C	-
		PT001B-HS	Tj max = 200°C	-
		PT001B-HS-25	Tj max = 200°C	-
		PT001B-HS-30	Tj max = 200°C	-
Cable	Jiangsu Tongling Electric Co., Ltd.	62930 IEC 131 1x4.0 mm ²	Rated voltage = 1500VDC	Certificate no.: R 50462100
Connectors	Jiangsu Tongling Electric Co., Ltd.	TL- CABLE01S-F TL-CABLE01S	Rated current = 41A	Certificate no.: R 50514839
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 35A	Certificate no.: R 60127169
Junction box set 19 (only for PV modules with 7" and 8" mono cells)				
Junction box	Tongwei Solar (Hefei) Co., Ltd.	TW-PVJB01-ab	Rated Voltage = 1500VDC Rated current = 25A or 30A Reverse current = 40A Number of diodes: 3	Certificate no. B 090075 0017
Adhesive (junction box)	H.B. Fuller (Suzhou) Advanced Material Co., Ltd. Beijing TONSAN New Material Technology Co., Ltd	1527	Silicone Color: white or black	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17, 18, 20, ,21, 23, 24, 26, 27, 28, 29, 30
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	Silicone Color: white or black	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17,18, 20, ,21, 23, 24, 25, 26, 27, 28, 29, 30,31
	Goloho Chemical Industry Ltd.	GOLOHO-63	-	Combine with rear cover 4, 10 ,17, 20, 26, 29
	Jiangsu Tiancheng Silicon Co., Ltd.	TS-688	-	Combine with rear cover 4, 10, 17, 20, 26, 29
	Jiangsu Tianshun New Material Technology Co., Ltd.	TS6568	-	Combine with rear cover 4, 10, 17, 20, 26, 29
	Hangzhou Zhijiang Silicone Chemicals Co., Ltd.	JS606	-	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17, 18, 20, ,21, 23, 24, 26, 27, 28, 29, 30
	Sika (Jiangsu) Industrial Material Ltd.	CV709	-	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17, 18, 20, ,21, 23, 24, 26, 27, 28, 29, 30
	Sika India Pvt. Ltd.	Sika AS 60 CN	-	Combine with rear cover 4, 10, 17, 20, 26,2 9
Jiangsu Tianchen Silicon Material Co., Ltd.	HT-8258	-	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17, 18, 20, ,21, 23, 24, 26, 27, 28, 29, 30	

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Object	Manufacturer	Type	Technical Data	Remark
	CHENGDU GUIBAO SCIENCE & TECHNOLOGY CO., LTD.	888A	-	Combine with rear cover 2, 4, 9, 10, 14, 15, 16, 17, 18, 20, ,21, 23, 24, 26, 27, 28, 29, 30
	Suzhou Datong Advanced Material Co., Ltd.	TT600	-	Combine with rear cover 2, 4, 10, 17, 20, 26, 28, 29
	Shanghai Huitian New Chemical Material Co., Ltd.	9661	-	Combine with rear cover 4, 10, 15, 17, 18, 20, ,21, 23, 26, 29
Potting material	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	Silicone Color: white or black	-
	H.B. Fuller (Suzhou) Advanced Material Co., Ltd. Beijing TONSAN New Material Technology Co., Ltd	1533 1521	Silicone Color: white or black	-
	Sika (Jiangsu) Industrial Material Ltd.	CV315	-	-
	Hangzhou Zhijiang Silicone Co., Ltd.	JS-1184	-	-
	JIANGSU TIANCHEN SILICON MATERIALS CO., LTD	HT-6360A/B	-	-
	Suzhou Datong Advanced Material Co., Ltd.	TT700J	-	-
	CHENGDU GUIBAO SCIENCE & TECHNOLOGY CO., LTD	4808	-	-

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Object	Manufacturer	Type	Technical Data	Remark
Bypass diodes	Tongwei Solar (Hefei) Co., Ltd. OEM: 1. Zhejiang Zhonghuan Sunter PV Technology Co., Ltd. 2. Panjit Electronics (Wuxi) Co., Ltd. 3. Yangzhou Yangjie Electronic Technology Co., Ltd. 4. Jinan Jin Heng Electronics Co., Ltd. 5. Changzhou Star Sea Electronics Co., Ltd. 6. Hangzhou Daoming Microelectronics Co., Ltd. 7. Yangzhou HY Technology development Co., Ltd. 8. Anhui Juxin Semiconductor Technology Co., Ltd. 9. Jilin Sino-Microelectronics Co., Ltd. 10. Nan Tong Homby Electronic Co., LTD 11. Jiangsu Tonglin Electric Co., Ltd.	35SQ045	Tj max = 200°C If = 35A	-
	Tongwei Solar (Hefei) Co., Ltd. OEM: 1. Zhejiang Zhonghuan Sunter PV Technology Co., Ltd. 2. Panjit Electronics (Wuxi) Co., Ltd. 3. Yangzhou Yangjie Electronic Technology Co., Ltd. 4. Jinan Jin Heng Electronics Co., Ltd. 5. Changzhou Star Sea Electronics Co., Ltd. 6. Hangzhou Daoming Microelectronics Co., Ltd. 7. Yangzhou HY Technology development Co., Ltd. 8. Anhui Juxin Semiconductor Technology Co., Ltd. 9. Nan Tong Homby Electronic Co., LTD 10. Jiangsu Tonglin Electric Co., Ltd.	40SQ045	Tj max = 200°C If = 40A	-

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Object	Manufacturer	Type	Technical Data	Remark
Cable	Tongwei Solar (Hefei) Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated Voltage = 1500VDC	Certificate no.: B 090075 0021
	Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.	62930 IEC 131 1x4.0mm ²	Rated Voltage = 1500VDC	Certificate no.: R 50436635
Connectors	Tongwei Solar (Hefei) Co., Ltd.	TW-PVCON-01	Rated current = 40A	Certificate no.: B 090075 0018
	Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated current = 45A (4.0mm ²)	Certificate no.: R 60127169
	Stäubli Electrical Connectors AG	PV-KST4-EVO2A/xy PV-KBT4-EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169
Junction box set 20 (only for PV modules with 7" and 8" mono cells)				
Junction box	Zhejiang Chuangyuan Photovoltaic Technology Co., Ltd.	PV-CY21xyz(x=1 or 2 or 3)	Rated Voltage = 1500VDC Rated current = 20A for (x=1), 25A for (x=2), 30A for (x=3) Reverse current = 40A Number of diodes: 3	Certificate no. R 50495966
Adhesive (junction box)	CHENGDU GUIBAO SCIENCE & TECHNOLOGY CO., LTD.	888A	-	Combine with rear cover 10
	Guangzhou Baiyun Chemical Industry Co., Ltd.	SMG533	-	Combine with rear cover 2, 10, 20, 28
	H.B. Fuller (Suzhou) Advanced Material Co., Ltd. Beijing TONSAN New Material Technology Co., Ltd	1527	-	Combine with rear cover 2, 10, 20, 28,
	Shanghai Huitian New Chemical Material Co., Ltd.	HT906Z	-	Combine with rear cover 2, 10, 20, 28
Potting material	CHENGDU GUIBAO SCIENCE & TECHNOLOGY CO., LTD	4808	-	-
	Shanghai Huitian New Chemical Material Co., Ltd.	5299W-S	-	-
	H.B. Fuller (Suzhou) Advanced Material Co., Ltd. Beijing TONSAN New Material Technology Co., Ltd	1533 1521	-	-
	Sika (Jiangsu) Industrial Material Ltd.	CV315	-	-
	Hangzhou Zhijiang Silicone Co., Ltd.	JS-1184	-	-
Bypass diodes	Yangzhou Yangjie Electronic Technology Co., Ltd.	30SQ045-SL	Tj max = 200°C If = 25A for PV-CY21xyz(x= 2)	-

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Object	Manufacturer	Type	Technical Data	Remark
		25SQ045	Tj max = 200°C If = 20A for PV-CY21xyz(x= 1)	-
		40SQ045	Tj max = 200°C If = 30A for PV-CY21xyz(x= 3)	-
Cable	Zhejiang Chuangyuan Photovoltaic Technology Co.,Ltd.	62930 IEC 131 1x4.0mm²	Rated Voltage = 1500VDC	Certificate no.: R 50495727
Connectors	Zhejiang Chuangyuan Photovoltaic Technology Co.,Ltd.	PV-CY03L	Rated voltage = 1500VDC Rated current = 30A	Certificate no.: R 50378729
		PV-CY20L	Rated voltage = 1500VDC Rated current = 40A	Certificate no.: R 50495997
	Stäubli Electrical Connectors AG Stäubli Electrical Connectors AG	PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169
		PV-KST4-EVO2A/xy PV-KBT4-EVO2A/xy	Rated voltage = 1500VDC Rated current = 45A	Certificate no.: R 60127169

Remark:

(1) ①Fire test Class C according to ANSI/UL 1703-2018 (MST 23 of IEC / EN 61730-2) has been evaluated on all the raw materials listed above.

②Fire test Class A according to ANSI/UL 1703-2018 (MST 23 of IEC / EN 61730-2) has been evaluated on the following materials

Raw material	Type	Manufacturer
Front sheet	AR Coating tempered glass	Tongwei Solar (Hefei) Co., Ltd.
Encapsulation system	TF4(front side), F806W(rear side)	Hangzhou First PV Material Co., Ltd. Hangzhou First Applied Material Co., Ltd.
Back sheet	Cynagard 255	Cybrid Technologies Inc.

(2) Pollution degree I (Sequence B1 of IEC / EN 61730-2) has been evaluated on all the raw materials listed above.

(3) Details for design loads (unit: Pa):

Mounting method			Design load (positive / negative)
Clamps installed	4 clamps (for PV modules with 6" solar cells)	Frame parts 6005-T6 with 30mm thickness (only for PV modules with 360 or 340 segmented solar cells)	3600 / 1600

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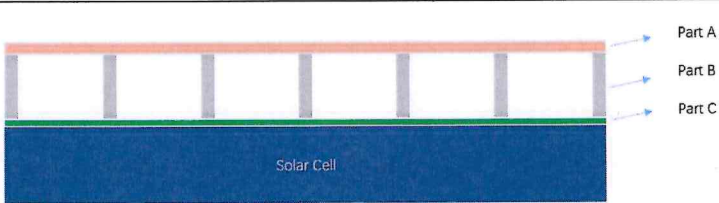
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	4 clamps (for PV modules with with 7"half-cut solar cells)	Frame parts 6005-T6 with 30mm thickness	3600 / 1600
		Frame parts 6005-T6 with 35mm thickness (Clamps mounting on 1/4 of the long side)	
	6 clamps (for PV modules with 6" solar cells)	Frame parts 6063-T6 with 35mm thickness	3600 / 1600
		Frame parts 6063-T6 with 35mm thickness (only for PV modules with 360 or 340 segmented solar cells) and Frame parts 6063-T5	Round 1: 2400 / 2400 Round 2: 3600 / 1600
		Frame parts 6005-T6 with 35mm thickness	3600 / 1600
	8 clamps (for PV modules with 7"and 8" solar cells)	Frame parts 6063-T6 with 35mm thickness, assembled with strengthening rib (for PV modules with 8"segmented solar cells)	3600 / 1600
		Frame parts 6063-T6 with 35mm thickness (for PV modules with 7"and 8"half-cut solar cells)	
		Frame parts 6005-T6 with 35mm thickness (for PV modules with 7"half-cut solar cells)	3600 / 1600
	Screw installed	for PV modules with 6" solar cells	Frame parts 6005-T6 with 35mm thickness
for PV modules with with 7" half-cut solar cells		Frame parts 6005-T6 with 30mm thickness	3600 / 1600

(4) Details for Internal wiring (for interconnection cell-to-cell bus bar)

Technical Data Description (T x W)	Diagram of structure	Detail Dimension (T x W x L)
0.12 x 20 mm		Part A: 0.12 x 4.6 mm Part B: 0.12 x 14 x 2 mm Part C: 0.12 x 1.4 mm
0.12 x 15 mm		Part A: 0.12 x 4.6 mm Part B: 0.12 x 9 x 2 mm Part C: 0.12 x 1.4 mm
0.12 x 13 mm		Part A: 0.12 x 4.6 mm Part B: 0.12 x 7 x 2 mm Part C: 0.12 x 1.4 mm

(5) The ending letters of module types and corresponding colors are as below:

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Ending letters of module types	Corresponding colors
SAF, SBF, SF, SCF, -F	Both black rear cover and black frame parts
SAS, SBS, SS, SCS, -S	White rear cover and black frame parts
HSxxx	White rear cover
HBxxx	Black rear cover
Others,	Both white rear cover and silvery color frame parts

(6) Those materials marked in blue are added in most recent project.

(7) Those materials marked with * represents for the materials only for PV modules with half-cut solar cells, # represents for the materials only for PV modules with segmented solar cells.

----- End of CDF -----

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