


Test specification: IEC 62790:2020; EN IEC 62790:2020

Our Reference 6109136C.50

Appendix No. 1.0

License Holder	SUZHOU UKT NEW ENERGY TECHNOLOGY Co., Ltd.
(full address)	688th, Youming Road, Wujiang District, 215200 Suzhou City Jiangsu, China
Production Factory 1	SUZHOU UKT NEW ENERGY TECHNOLOGY Co., Ltd.
(full address)	688th, Youming Road, Wujiang District, 215200 Suzhou City Jiangsu, China
Type of Product.....	Junction box for photovoltaic modules
Trademark	
Type Name or Model No	PV-JB12x (x=A or B or C or D or E or F or H or A-1 or T or A-25 or B-25 or L or M or N1 or N2 or S1 or S2)
Rated Voltage.....	1500 Vdc for PV-JB12x (x=A or C or E or H or A-1 or T or A-25 or L or N1 or S1); 1000 Vdc for PV-JB12x (x=B or D or F or B-25 or M or N2 or S2)
Rated impulse voltage.....	16 kV for PV-JB12x (x=A or C or E or H or A-1 or T or A-25 or L or N1 or S1); 12 kV for PV-JB12x (x=B or D or F or B-25 or M or N2 or S2)
Max. working (module) Voltage	100 V
Rated Current.....	13 A for PV-JB12x (x=H); 15 A for PV-JB12x (x=A-1); 18 A for PV-JB12x (x=A or B or C or D or E or F or T or L or M); 20 A for PV-JB12x (x=N1 or N2); 25 A for PV-JB12x (x=A-25 or B-25); 30 A for PV-JB12x (x=S1 or S2)
Reverse Current	30 A for PV-JB12x (x=A or B or C or D or E or F or H or A-1 or T or L or M) 54 A for PV-JB12x (x=A-25 or B-25 or N1 or N2 or S1 or S2)
Standard.....	IEC 62790:2020; EN IEC 62790:2020
Application class	Class A
Pollution degree	1 / 2 / 3 / 4 (inside of the junction box's enclosure, after potting)
Over voltage category	I / II / III / IV

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Lower ambient temperature	-40 °C	
Upper ambient temperature	85 °C	
RTI housing material	+110 °C for 540Z(f1)(c); +125 °C for 644Z(f1)(c) +120 °C for A3XZG5(f1)	
Flammability class	5VB (Verification Test)	
Termination and connection.....	Resistance welding-type final terminals for external flexible PV Cable; Soldered-type terminals for internal connection with PV ribbon; Integration for internal connection with bypass diode	
Cable diameter	5,5 mm - 6,8 mm for 4,0 mm ² ; 6,0 mm - 7,25 mm for 6,0 mm ²	
Rated torque for cable gland.....	N/A	
Wire cross section area or cross section range.....	1 x 2,5 mm² / 1 x 4,0 mm ² / 1 x 6,0 mm ²	
Degree of protection.....	IP65/IP68(1m, 1h)	
Rewire able.....	Yes / No	
Adhesive and sealing compound of junction box/ Back sheet of PV-module	Type of adhesive and sealing compound	Type of Backsheet
	1527, manufactured by Suzhou TONSAN Adhesive Ltd.	PVDF foil (FFC-JW30), manufactured by Jolywood (Suzhou) Sunwatt Co., Ltd.
		PVDF foil (Cynagard 225A) manufactured by Cybird Technology Inc.
		Glass
		PVDF foil (HTPV348S), manufactured by Chang Zhou Hui Tian New Material Co., Ltd.
		PVDF foil (KFB-30), manufactured by Jolywood (Suzhou) Sunwatt Co., Ltd.
	HT906Z, manufactured by Shanghai Huitian New Material Co., Ltd.	PET foil (Cynagard 275A), manufactured by Cybird Technologies Inc.
		PET foil (Crown BO-L2), manufactured by Advanced material Co., LTD
		Glass
		PVF foil (T-3502), manufactured by Jolywood (Suzhou) Sunwatt Co., Ltd.

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		PVDF (Cynagard 2X5A), manufactured by Cybird Technology Inc.	
		PVDF (Cynagard 2X5A(R)), manufactured by Cybird Technology Inc.	
		PVDF (BEC-303), manufactured by Hangzhou First PV material Co., Ltd.	
	HT8258, manufactured by Jiangsu Tianchen New Materials Co., Ltd.	PET foil (Cynagard 275A), manufactured by Cybird Technologies Inc.	
		PET foil (Crown BO-L2), manufactured by Advanced material Co., LTD	
		Glass	
Potting material	Type of potting material	Type of Junction Box	
	5299W-S, manufactured by Shanghai Huitian New Material Co., Ltd	PV-JB12x(x=A or B or C or D or E or F or H or A-1 or T or A-25 or B-25 or L or M or N1 or N2 or S1 or S2)	
	HT6360, manufactured by Jiangsu Tianchen New Materials Co., Ltd.	PV-JB12x(x=A or B or A-25 or B-25 or L or M or N1 or N2 or S1 or S2)	
	GOLOHO-313-AB, manufactured by Goloho Chemical Industrial Ltd.	PV-JB12x(x= A-25 or B-25 or N1 or N2 or S1 or S2)	
	JS-1184, manufactured by Hangzhou Zhijiang Silicone Chemicals Co., Ltd.		
	1533, manufactured by Suzhou TONSAN Adhesive Ltd.		
	MF962L, manufactured by ZHENGZHOU ZHONGYUAN SILANDE HIGH TECHNOLOGY CO., LTD		
Bypass-Diode	Type name	UKTH3045-12	UKTH3045-16 / TM3045-20
	Number	3 single diode module for PV-JB12x (x=A or B or C or D or N1 or N2); 2 single diode module for PV-JB12x (x=E or F)	
	Manufacturer	SUZHOU UKT NEW ENERGY TECHNOLOGY Co, Ltd.	
	Diode data	Side:150 mil (3,8 mm x 3,8 mm); Thickness: 0,28 mm (stated by manufacturer)/ Side:150 mil; Thickness: 0,28 mm $I_f=30A; V_{RRM}=45V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 519,00mV at 30A; Leakage current max.120,55uA at 45V	
	Box type	PV-JB12x (x=A or B or C or D or E or F)	PV-JB12x (x=N1 or N2)
	Rated current	18 A	20 A
	Type name	UKTH30100-12	UKTH3045-14
	Number	3 single diode module	3 single diode module
	Manufacturer	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	

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Diode data	Side:150 mil (3,8 mm x 3,8 mm); Thickness: 0,28 mm (stated by manufacturer) / Side:150 mil; Thickness: 0,27 mm $I_f=30A; V_{RRM}=100V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 537,00mV at 30A; Leakage current max.250,01uA at 100V	Side:150 mil (3,81 mm x 3,81 mm); Thickness: 0,28 mm (stated by manufacturer)/ Side:150 mil; Thickness: 0,28 mm $I_f=30A; V_{RRM}=45V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 525,20mV at 30A; Leakage current max.35,118uA at 45V
Box type	PV-JB12x (x=A-1)	PV-JB12x (x=T)
Rated current	15 A	18 A
Type name	UKTH4545-12 / TM3045-25	UKTH3045-15
Number	3 single diode module	
Manufacturer	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	
Diode data	Two chips: Side:150 mil (3,8 mm x 3,8 mm); Thickness: 0,28 mm (stated by manufacture) / Side:152 mil; Thickness :0,28 mm $I_f=30A; V_{RRM}=45V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 439,000mV at 30A; Leakage current max. 39,676uA at 45V; Single chip: 165mil x 165mil x 0,3mm 480,0mV at 30A; 30,1uA at 45V	Side:150 mil; (3,81 mm x 3,81 mm); Thickness: 0,28 mm (stated by manufacture) / Side:150 mil; Thickness: 0,28 mm $I_f=30A; V_{RRM}=45V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 522,300mV at 30A; Leakage current max. 37,611uA at 45V
Box type	PV-JB12x (x=A-25 or B-25)	PV-JB12x (x=L or M)
Rated current	25 A	18 A
Type name	UKTH3045-13	UKTH5045-12 / TM3045-30
Number	3 single diode module	
Manufacturer	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	
Diode data	Side:130mil; (3,3 mm x 3,3 mm); Thickness: 0,27 mm (stated by manufacture)/ Side:130 mil, Thickness:0,28 mm $I_f=30A; V_{RRM}=45V (T_j=200\text{ }^\circ\text{C})$ Forward voltage max. 575,00mV at 30A; Leakage current max. 52,8uA at 45V	Two chips: 165 mil x 165 mil x 0,28 mm; Forward voltage max. 426,00mV at 30A; Leakage current max. 77,5uA at 45V
Box type	PV-JB12x (x=H)	PV-JB12x (x=S1 or S2)
Rated current	13 A	30 A
(Optional) Accessories..... :	N/A	

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List of Critical Components (add lines for multiple material sources)

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1.0	Material of housing	ASAHI KASEI CHEMICALS CORP XYRON POLYMER	m-PPE, "Xyron", 540Z(f1)(c)	UL94, V-0 RTI=110 °C	—	UL E82268
			m-PPE, "Xyron", 644Z(f1)(c)	UL94, V-0 RTI=125 °C		
	Alternate for PV-JB12x (x=T)	BASF SE	Polyamide 66, A3XZG5(f1)	UL94, V-0, 5VA RTI=120 °C		UL E41871
2.0	Material of Box Lid	ASAHI KASEI CHEMICALS CORP XYRON POLYMER	m-PPE, "Xyron", 540Z(f1)(c)	UL94, V-0 RTI=110 °C	—	UL E82268
			m-PPE, "Xyron", 644Z(f1)(c)	UL94, V-0 RTI=125 °C		
	Alternate for PV-JB12x (x=T)	BASF SE	Polyamide 66, A3XZG5(f1)	UL94, V-0, 5VA RTI=120 °C		UL E41871
3.0	Material of bottom	ASAHI KASEI CHEMICALS CORP XYRON POLYMER	m-PPE, "Xyron", 540Z(f1)(c)	UL94, V-0 RTI=110 °C	—	UL E82268
			m-PPE, "Xyron", 644Z(f1)(c)	UL94, V-0 RTI=125 °C		
	Alternate for PV-JB12x (x=T)	BASF SE	Polyamide 66, A3XZG5(f1)	UL94, V-0, 5VA RTI=120 °C		UL E41871
4.0	PV Cable	Ningbo Kibor Wire & Cable Co., Ltd.	H1Z2Z2-K 1 x 4,0 mm ²	1 x 4,0 mm ² cable diameter: 6,10±0,15mm / 6,60±0,20mm, 56 conductors, 0,285±0,008mm per conductor	EN 50618:2014	TÜV R 50302047
			H1Z2Z2-K 1 x 4,0 mm ²	1 x 4,0 mm ² cable diameter: 6,30±0,2mm, 56 conductors, 0,3±0,008mm per conductor		TÜV R 50302047 & UL E470608
			62930 IEC 131 1X1,5...240mm ² HALOGEN FREE LOW SMOKE	1 x 4,0 mm ²	IEC 62930:2017	TÜV R 50413678
		Wuxi Xinhongye Wire & Cable Co., Ltd.	H1Z2Z2-K 1 x 1,5...35 mm ²	1 x 4,0 mm ² cable diameter: 6,40±0,2mm, 56/52 conductors, 0,285±0,008mm / 0,30±0,008mm per conductor	EN 50618:2014	TÜV R 50311889 & UL E332548

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			H1Z2Z2-K 1 x 1,5...35 mm ²	1 x 4,0 mm ² cable diameter: 6,10±0,15mm / 6,60±0,20mm, 56 conductors, 0,285±0,008mm per conductor		TÜV R 50311889		
			62930 IEC 131 1X1,5...35mm ² HALOGEN FREE LOW SMOKE	1 x 4,0 mm ²	IEC 62930:2017	TÜV R 50439595		
		Trina Solar Co., Ltd.	62930 IEC 131 1x4,0mm ² HALOGEN FREE LOW SMOKE	1 x 4,0 mm ² cable diameter 5,70 ± 0,2 mm, 56 conductors, 0,285 ± 0,008 mm per conductor	1 x 4,0 mm ² cable diameter: 6,40 ± 0,2 mm	IEC 62930:2017	TÜV R 50451199	
				TÜV R 50451199 & UL E504577				
			H1Z2Z2-K 1x4,0mm ²	1 x 4,0 mm ² cable diameter: 5,70 ± 0,2 mm	EN 50618:2014	TÜV R 50426462		
				1 x 4,0 mm ² cable diameter: 6,40 ± 0,2 mm		TÜV R 50426462 & UL E504577		
		Changshu JHOSIN Communication Technology Co., Ltd.	H1Z2Z2-K 1x1,5...35mm ²	1 x 4,0 mm ²	EN 50618:2014	TÜV R 50325448		
			62930 IEC 131 1X1,5...35mm ² HALOGEN FREE LOW SMOKE		1 x 6,0 mm ²	IEC 62930:2017	TÜV R 50413335	
		SUZHOU YONGHAO CABLE CO LTD	62930 IEC 131 1X2,5...35mm ² HALOGEN FREE LOW SMOKE	1 x 4,0 mm ²	IEC 62930:2017	TÜV R 50401233		
			H1Z2Z2-K 1x2,5...35mm ²	1 x 6,0 mm ²	EN 50618:2014	TÜV R 50379270		
		5.0	Connector	SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD	PV-CO01	Rated Voltage: 1000V / Rated Current : 25A / Cross section: 1x4,0mm ²	IEC 62852:2014; EN 62852:2015	TÜV R 50294826
					PV-CO02-xy	Rated Voltage:1500V / Rated Current 30A / Cross section: 1x4,0mm ²		TÜV R 50390097
Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M-1			Rated Voltage: 1000V / Rated Current : 30A / Cross section: 1x4,0mm ²	IEC 62852:2014; EN 62852:2015	TÜV R 50318165		
	PV-JK03M-2			Rated Voltage: 1500V / Rated Current : 30A / Cross section: 1x4,0mm ²		TÜV R 50318165		

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		Stäubli Electrical Connectors AG	PV-KST4/xy-UR (male); PV-KBT4/xy-UR (female)	Rated Voltage 1000VDC/ Rated Current: 39A / Cross section: 1x4,0mm ²	IEC 62852:2014; EN 62852:2015	TÜV R 60127190
			PV-KST4-EVO2/xy_UR (male); PV-KBT4-EVO2/xy_UR (female)	Rated Voltage: 1500V / Rated Current : 45A / Cross section: 1x4,0mm ²		TÜV R 60127169
		Trina Solar Co., Ltd.	TS4	Rated Voltage: 1500VDC/ Rated Current: 41A/ Cross section: 1x4,0mm ²	IEC 62852:2014; EN 62852:2015	TÜV R 50401767
6.0	Conductor	Wuxi Haoyunlai technology Co., Ltd.	Red Copper (T1), tin plated	Thickness of tin 0,3 mm	—	—
7.0	Soldering material	Yangzhong City Ring Electrical Materials Ltd.	Sn50-Pb50	Melting Point temperature: 183°C	—	—
		ShenZhen Vital New Material Company Ltd.				
		Suzhou EUNOW company limited				
		Wuxi Xin Youke Electronic Materials Co., Ltd.				
	Yangzhong City Ring Electrical Materials Ltd.	Sn99.3Cu0.7Sn63Pb37	Melting Point temperature: 183°C~230°C	—	—	
Soldering Tin Pad	SuZhou Baidaneng Electronics Co., Ltd.					

Remark: N/A