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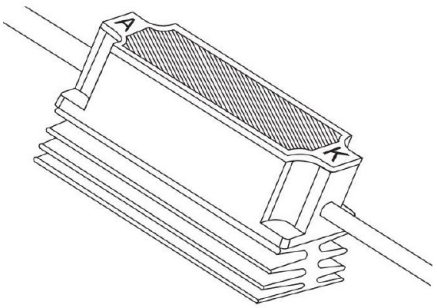
CN40-DC-55

Outdoor photovoltaic anti reverse diode module

Features

1) Electricaly-isolated chip and baseboard AC 2500V
2) Glass passivated welding chip,Module above 250A with crimping structure.Sensitive to temperature and power cycle duty
3) Welding technique under the protection ofvacuum and hydrogen with nitrogen gas,full automaticcrimping structure techology
4) Low-loss,andlow leakage current,goodstability
5) Convenient installation,use and maintenance



Typical Applications

1) Photovoltaic DC cabinet anti reverse special
2) PV Inverter
3) New energy vehicles
4) Electric vehicle
5) Charging pile anti reverse

$I_{F(AV)}$	55A
V_{RRM}	1600V
I_{FSM}	1.3 KA
I^2t	9.410^3A^2S

Main parameter

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{F(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled,Tc=85°C	150			55	A
$I_{F(RMS)}$	Root Mean Square		150			85	
V_{RRM}	Repetitive peak reverse voltage	V_{RRM} tp=10ms, V_{RSM}= V_{RRM}+200V	150	1600			V
I_{RRM}	Repetitive peak current	V_{RM}=V_{RRM}	150			3	mA
I_{FSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}	150			1.3	KA
I^2t	I^2t for fusing coordination					9.4	A^2S*10^3
V_{FO}	Threshold voltage		150			0.75	V
r_F	On-state slope resistance					1.70	mΩ
V_{FM}	Peak on-state voltage	I_{FM}=165A	25			1.2	V
$R_{th(j-c)}$	Thermal resistance Junction to case	At 180^0 sine single side cooled				0.47	°C/W
$R_{th(c-h)}$	Thermal resistancecase to heatsink	At 180^0 sine single side cooled				0.20	°C/W
V_{iso}	Isolation Voltage	50Hz,R.M.S,t=1min,Iiso:1mA(max)		2500			V
F_m	Mounting force(M8)				2		N·m
	Mounting force(M12)				3		N·m
T_{stg}	Stored temperature			-40		125	°C
W_t	Weight				187		g
Size	Packaging box size	210*113*42					mm

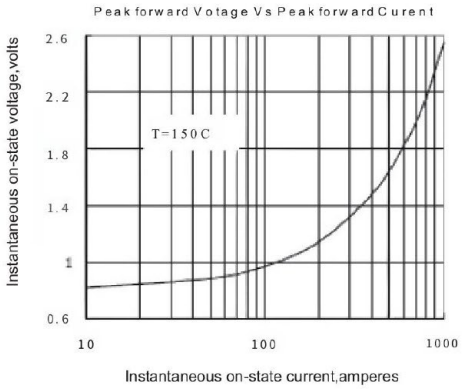


Fig.1

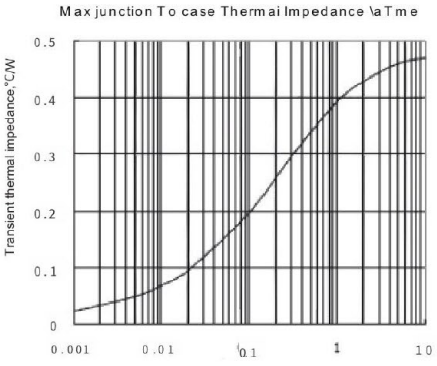


Fig.2

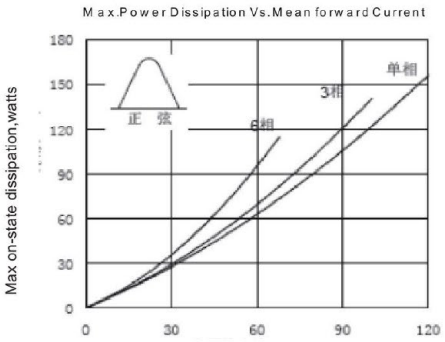


Fig.3

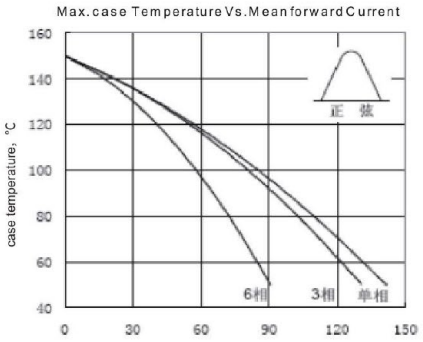


Fig.4

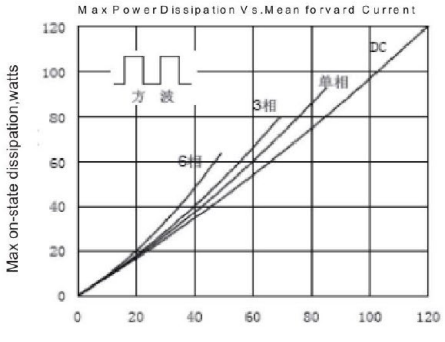


Fig.5

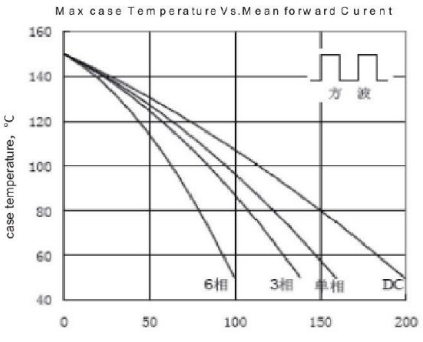


Fig.6

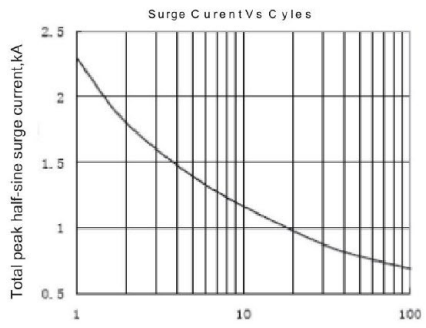


Fig 7

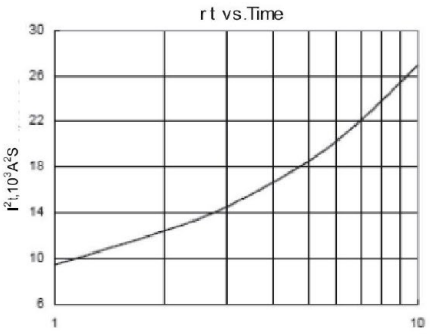


Fig.8

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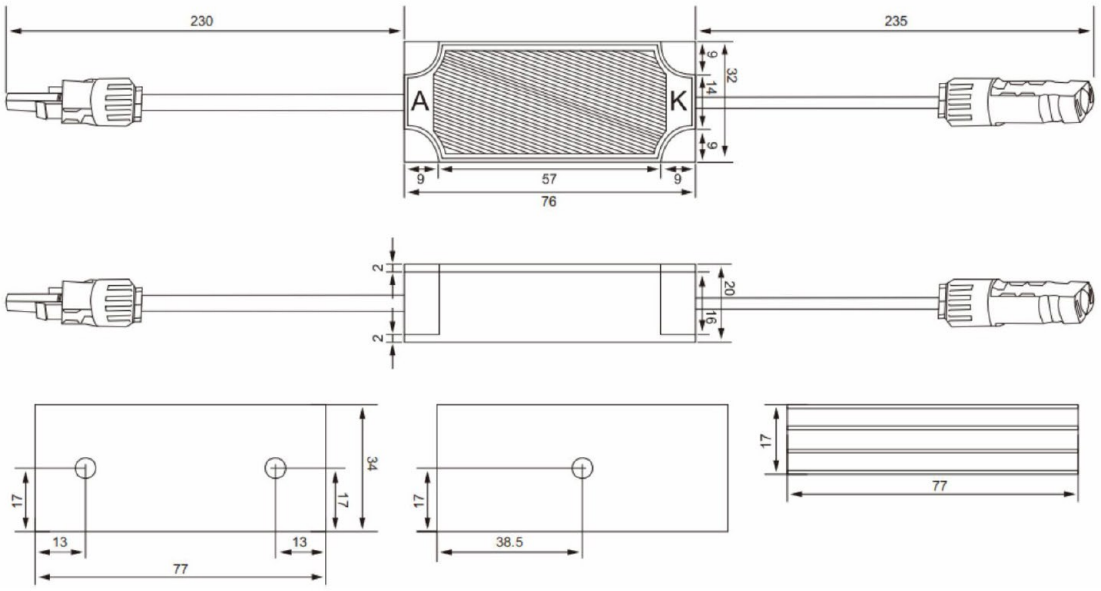
Outline



Tolerance: ±1MM

*Dimensions in millimeters.

1.Usage conditions and precautions

1) The usage environment should be free from severe vibrations and impacts, and there should be no corrosive metals, insulation damaging impurities, or atmospheres in the environmental medium.

2) Working junction temperature of module die:-40℃~160℃ for diode; The ambient temperature shall not exceed 40℃;The environmental humidity is less than 86%

3) The module must be equipped with a heat sink before use.

2. Installation precautions

1) Due to the insulation type of CN40-DC-55 photovoltaic anti reverse diode module (i.e.the insulation withstand voltage between the module terminal and the coppersubstrate is qreater than the effective value of 3.1KV)
Therefore, multiple modules can be installed on the same heat sink or on the grounded casing of the device.

2) The installation surface of the radiator should be flat and smooth, without scratches, bumps, or debris. The surface smoothness of the radiator should be less than 10 μ m. When installing modules on the heat sink, a thin layer of thermal grease should be applied between their contact surfaces. Before applying grease, use fine sandpaper to remove the oxide layer on the contact surface of the radiator, and then wipe the surface clean with anhydrous ethanol to ensure good contact and reduce thermal resistance. When fastening the module to the surface of the radiator, use M5 or M6 screws and spring washers, and tighten the screws with a torque of 4NM. The connection between the screws and the main electrode of the module should be made of copper bars and have a smooth and flat contact surface to ensure good contact. After the module has been working for 3 hours, all screws must be tightened again.

Module heat sink selection

When selecting a radiator, users must consider the following factors:

The working current of the module determines the required heat dissipation area;

Based on the usage environment, it can be determined which cooling method to adopt - natural cooling, forced air cooling, or water cooling;

The shape and volume of the device, as well as the size of the reserved space for the radiator, can be used to determine what shape to adopt. A solemn statement: Currently, there are various inferior radiators on the market, please pay attention to identification when purchasing, such as module damage or other serious consequences caused by the use of inferior radiators. Our company is not responsible.