



# QCM5045B-180T1

## Photovoltaic Solar Cell Protection Schottky Diode

### Features

- Low power loss, high efficiency
- High surge current capability
- Guardring for overvoltage protection
- High temperature reverse characteristic is excellent
- Trench Schottky Technology
- Metal of silicon rectifier, majority carrier conduction

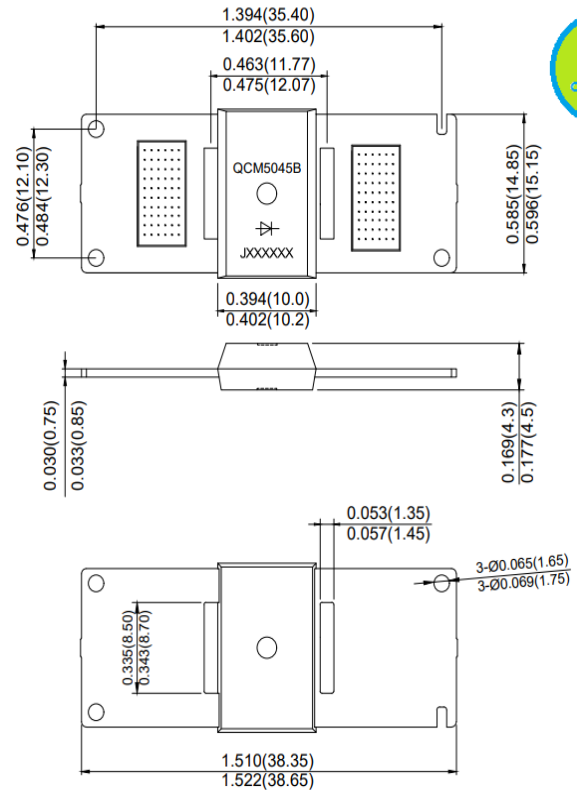
### Mechanical Data

- Case:QC3Q, Molded plastic body Molding compound meets UL 94 V-0 flammability rating
- Terminal: Mattle tin plated leads,solderable per JESD22-B102
- Polarity: As marked on body
- Weight: 4.9grams(approximately)

### Typical Applications

- Photovoltaic solar cell protection
- Switching power supplies, converters, freewheeling diodes, and reverse battery protection

## Bypass Diode Module For PV Forward Current - 50 Amperes



## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	SYM	QCM5045B-180T1	Unit
Maximum Repetitive Peak Reverse Voltage	VRRM	45	V
Maximum RMS Voltage	VRMS	31.5	V
Maximum DC Blocking Voltage	VDC	45	V
Maximum Average Forward Rectified Current @ Tc=125 °C	I(AV)	50	A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load ( JEDEC Method )	IFSM	400	A
Peak Forward Voltage at	VF	30A DC (Note 1)	0.49
		40A DC (Note 1)	0.55
Maximun DC Reverse Current at Rated DC Blocking Voltage	IR	@Tj=25°C	0.15
		@Tj=100°C	20
Typical Thermal Resistance Junction to Case	RθJC	1.5	°C/W
Junction Temperature Range ( Note2 )	TJ	-55 to+200	°C
Storage Temperature Range	TSTG	-55 to+150	°C

Notes: 1. 300uS pulse width, 2%duty cycle.

2. Junction Temperature In DC forward current without reverse bias, t<sub>1</sub> h (Fig.1). Meets the Requirements of IEC 61215 Ed. 2 bypass diode thermal test.

3. The typical data above is for reference only.

4. Products made by JUXIN semiconductor





## Rating and Characteristic Curves

Fig. 1 - Forward Current Derating Curve

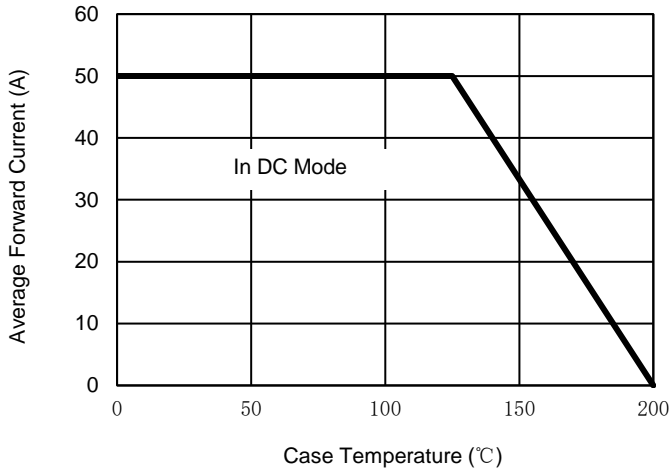


Fig. 2 - Maximum Non-Repetitive Surge Current

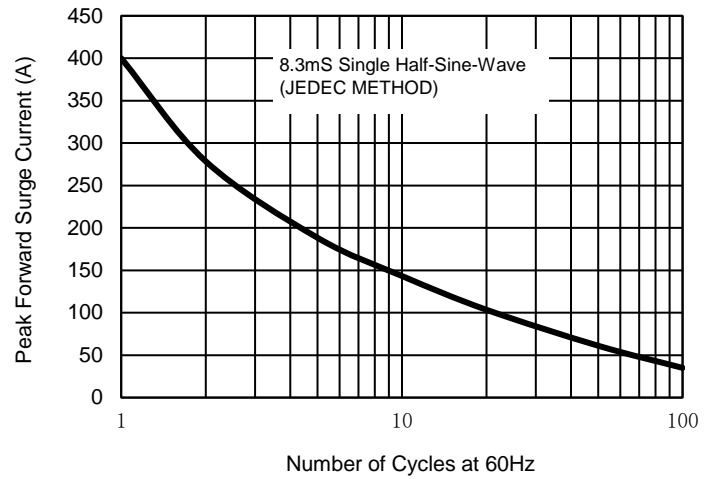


Fig. 3 - Typical Reverse Characteristics

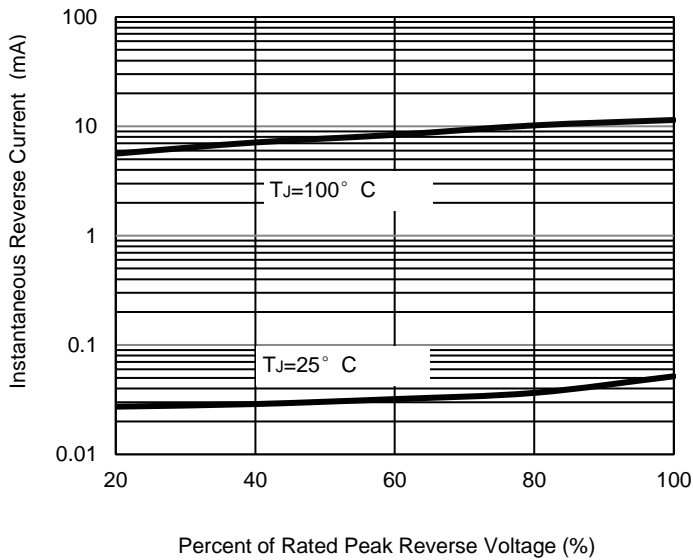
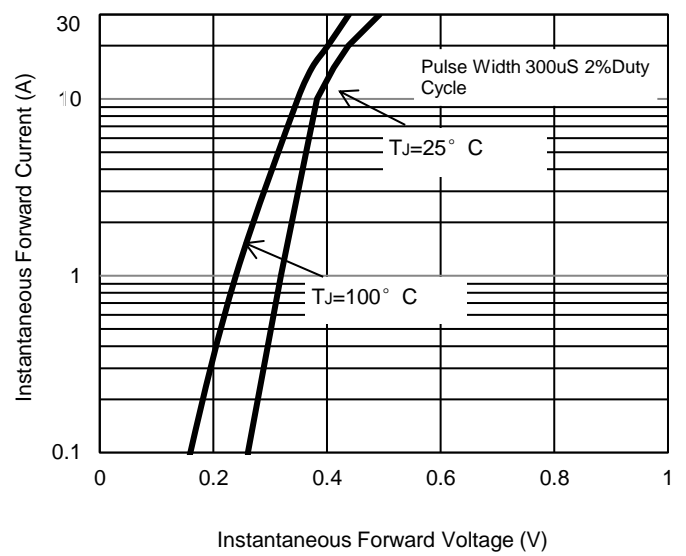


Fig. 4 - Typical Forward Characteristics



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