



QCF5045

Integrated bypass diode for Solar cell Module

1.Features

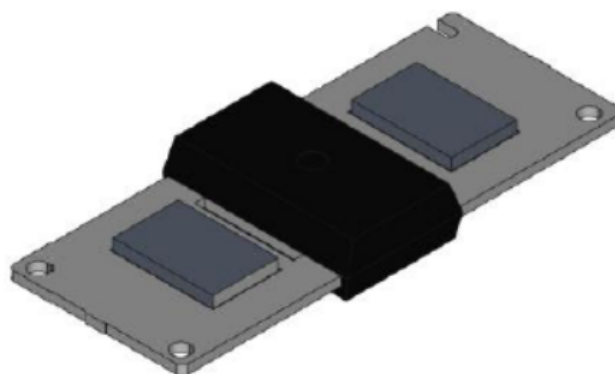
- Schottky Barrier hight diode;
- Low thermal resistance;
- Lower forward voltage drop, low power loss;
- Isolate Package design, ideal for heat dispersion;
- High forward current capability;
- Excellent anti-humidity;
- Low profile package;
- High forward surge capability;



RoHS
COMPLIANT

2.Mechanical Data

- Case: QC3Q;
- Terminals: Copper;
- High temperature soldering guaranteed;
Heated-tool welding 260°C, 10seconds
- Marking: As marked on product;



QC3Q

3.Order Information

Package	QC3Q
PVC tube	32pcs/ tube
Inner Box	320pcs/ Inner box
Carton	1600pcs/ Carton

4.Typical Applications

For the protection of solar cell bypass box.
Using DC forward current without reverse bias.

Case: QC3Q

Dimensions in milimeters

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

For capacitive load, derate current by 20%.

Parameter	Symbol	QCF5045		Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45		Volt
Maximum working peak reverse voltage	V_{RWM}	45		Volt
Average rectified output current @ 60Hz sine wave, $T_a=25^\circ\text{C}$	I_O	50		Amps
Non-Repetitive Peak forward surge current @ 60Hz, single sine-wave load	I_{FSM}	450		Amps
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	840		A^2sec
Instantaneous forward voltage drop	V_F	@IF=10A	0.39 Typ. 0.44 max.	Volt
		@IF=20A	0.43 Typ. 0.48 max.	
		@IF=30A	0.46 Typ. 0.51 max.	
		@IF=50A	0.49 Typ. 0.54 max.	
Reverse Current at Rated DC reverse Voltage	I_R	@Tj=25°C	250 Typ. 500 max.	μA
		@Tj=125°C	80.00 Typ. 150.00 max.	mA
Typical capacitance (1.0 MHz and Applied reverse Voltage of 5.0V D.C)	C_j	2600		pF
Typical thermal resistance	$R_{\theta J-C}$	1.5		°C/W
Storage Temperature	T_{STG}	-55 to +150		°C
Junction Temperature IN DC Forward Mode, without reverse bias, $t \leq 1\text{ h}$	T_J	-55 to +150		°C



5. Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

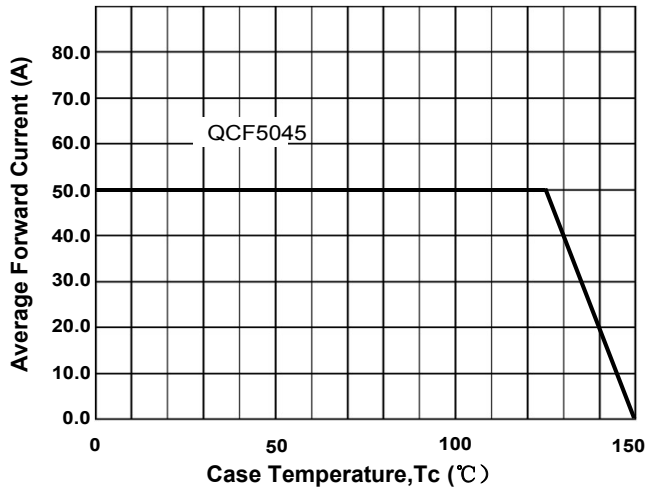


FIG.2 Typical Forward Characteristics per Diode

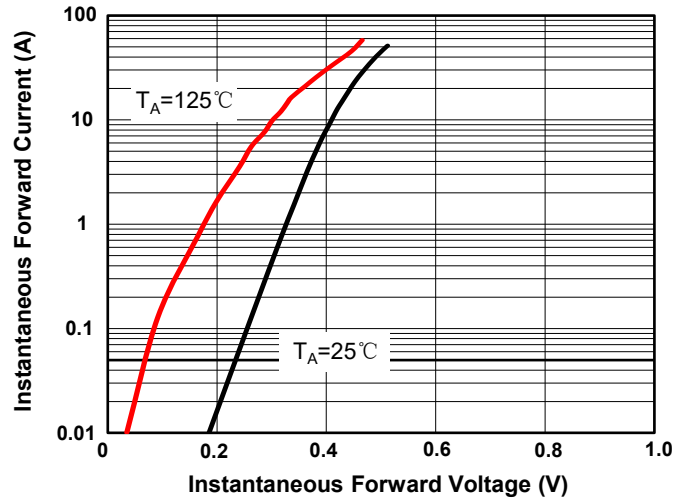


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

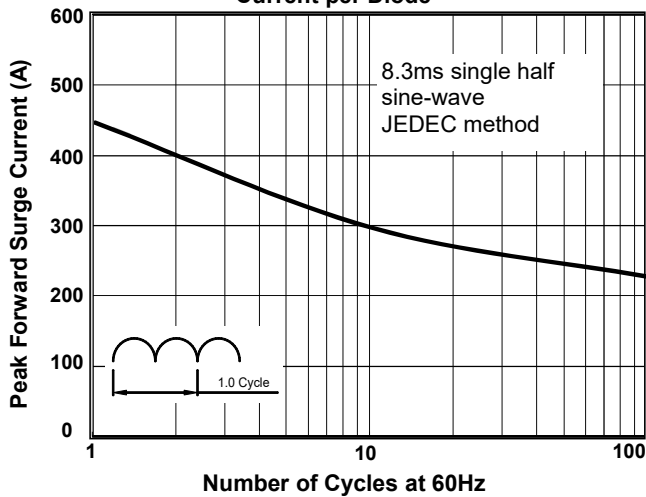


FIG.4 Typical Reverse Characteristics per Diode

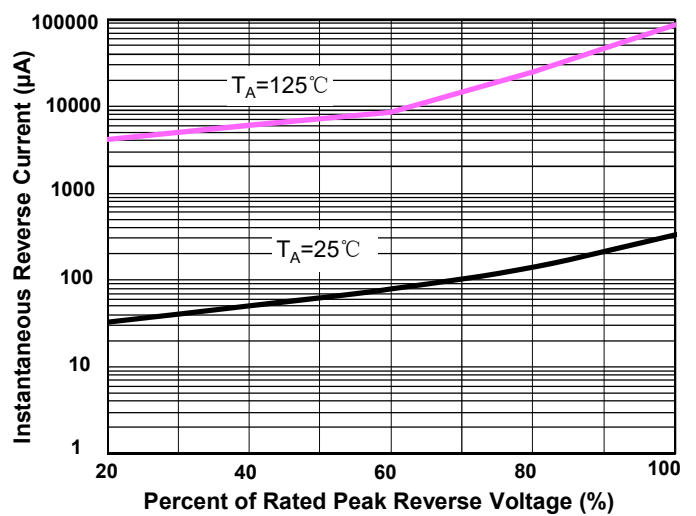
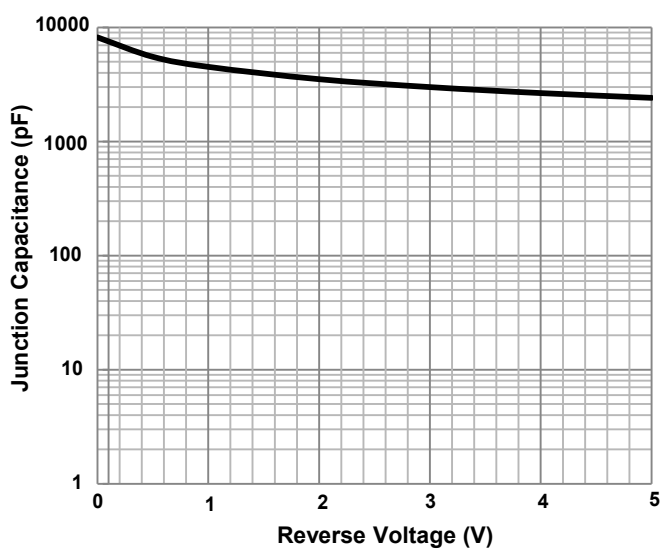


FIG.5 Typical Junction Capacitance per Diode

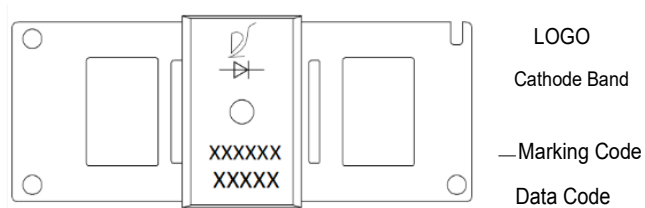




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Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.512	1.520	38.40	38.60
B	1.396	1.400	35.45	35.55
C	0.587	0.595	14.90	15.10
D	0.476	0.484	12.10	12.30
E	0.394	0.402	10.00	10.20
F	0.169	0.177	4.30	4.50

7.Part Marking System





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