QCF6045T

Integrated bypass diode for Solar cell Module

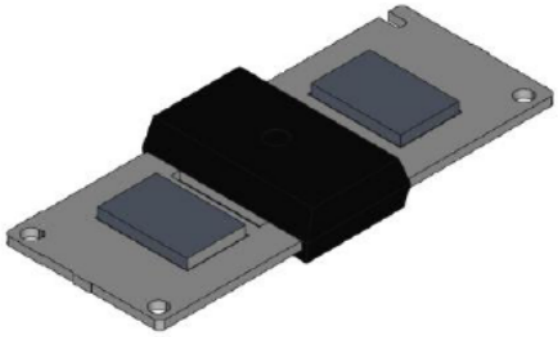
RoHS COMPLIANT

1.Features

- Schotty 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;

2.Mechanical Data

- Case: QC3Q;
- Terminals: Copper;
- High temperature soldering guaranteed;
  Heated-tool welding 260℃,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℃ ambient temperature unless otherwise specified.
For capacitive load, derate current by 20%.

Parameter		Symbol	QCF6045T	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, Ta=25℃		I_O	60	Amps
Non-Repetitive Peak forward surge current @ 60Hz, single sine-wave load		I_{FSM}	450	Amps
Rating for fusing (t<8.3ms)		I^2t	840	A^2sec
Instantaneous forward voltage drop	@IF=10A	V_F	0.39 Typ. 0.44 max.	Volt
	@IF=20A		0.42 Typ. 0.47 max.	
	@IF=30A		0.44 Typ. 0.49 max.	
	@IF=60A		0.52 Typ. 0.57 max.	
Reverse Current at Rated DC reverse Voltage	@Tj=25℃	I_R	37 Typ. 100 max.	μA
	@Tj=125℃	I_R	80.00 Typ. 150.00 max.	mA
Typical capacitance (1.0 MHz and Applied reverse Voltage of 5.0V D.C)		C_j	4600	pF
Typical thermal resistance		$R_{\Theta J-c}$	1.5	℃/W
Storage Temperature		T_{STG}	-55 to +150	℃
Junction Temperature IN DC Forward Mode, without reverse bias, t ≤1 h		T_J	-55 to +150	℃

5.Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

FIG.1 Derating Curve Output Rectified Current

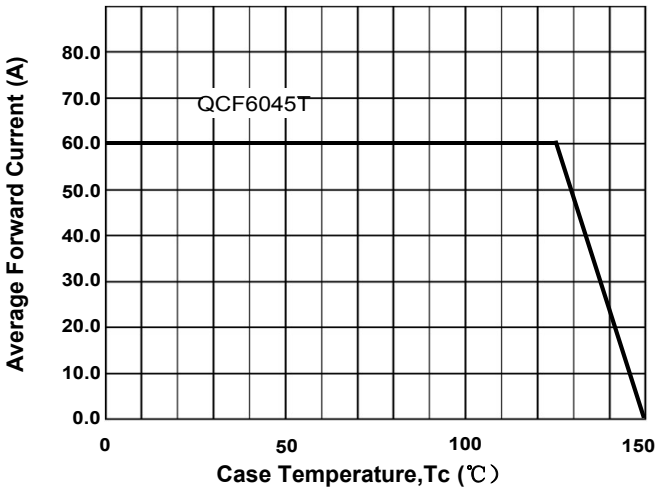


FIG.2 Typical Forward Characteristics per Diode

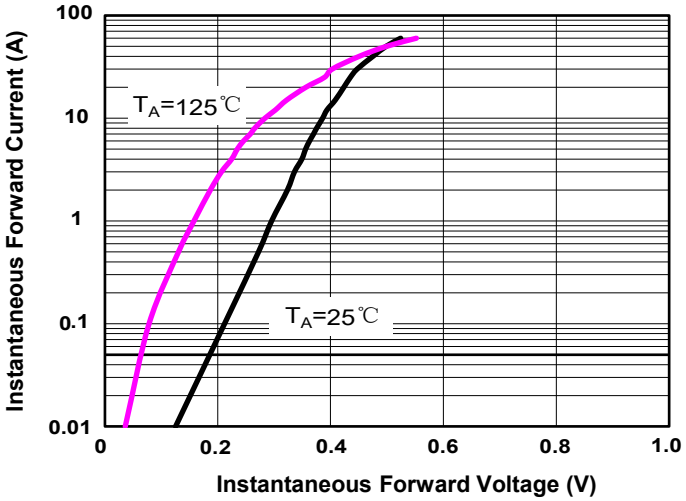


FIG.3 Maximum Non-Repetitive Peak Forward Surge Current per Diode

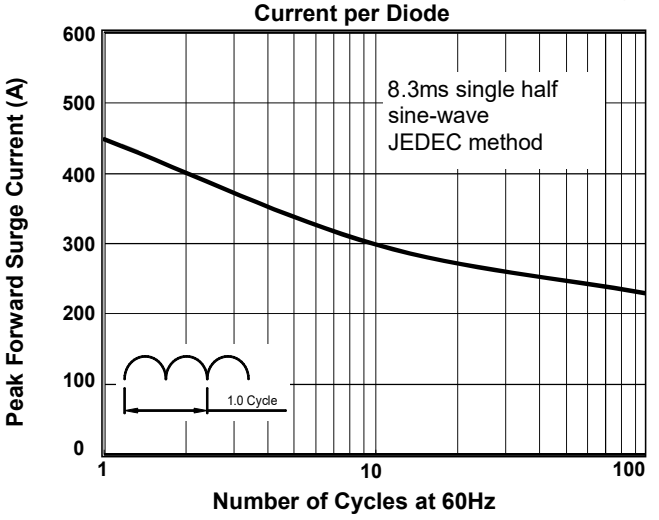


FIG.4 Typical Reverse Characteristics per Diode

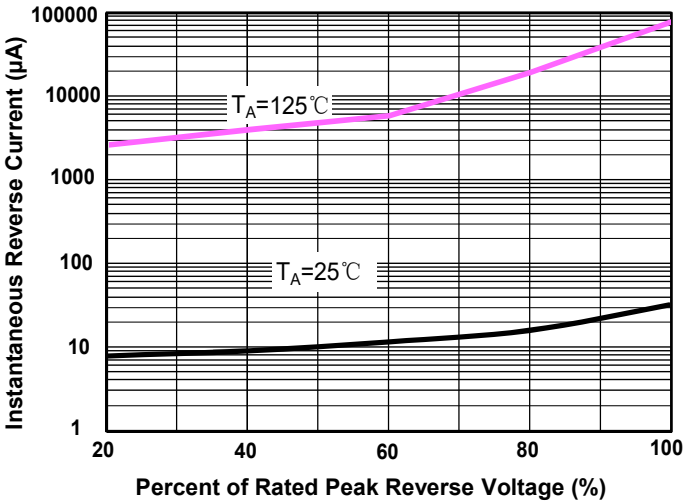
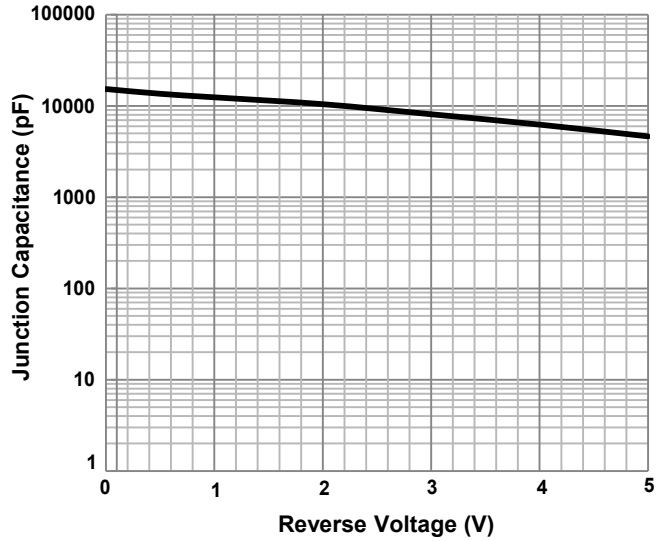
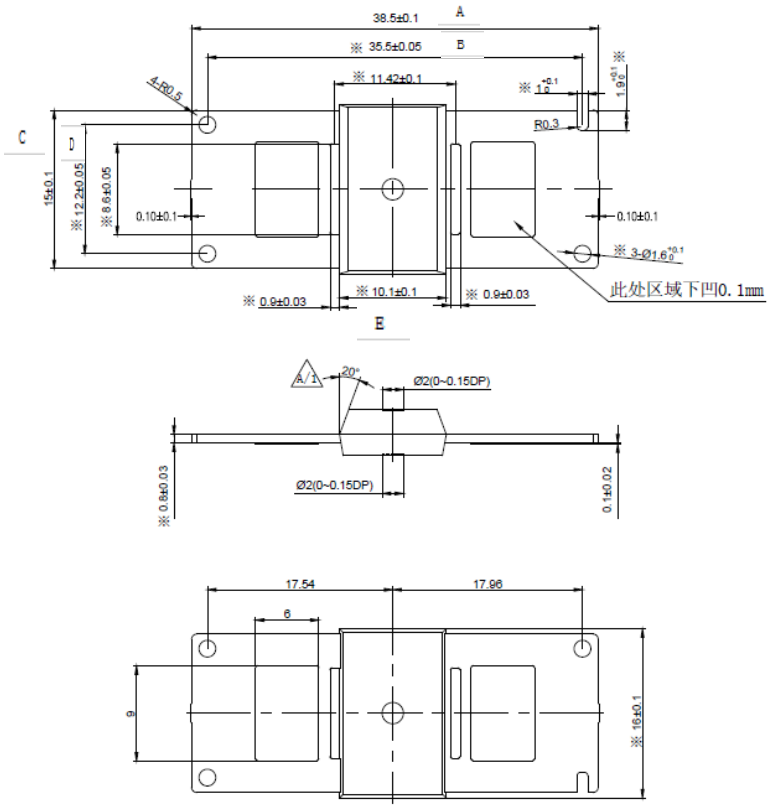
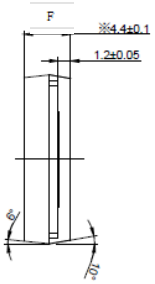


FIG.5 Typical Junction Capacitance per Diode



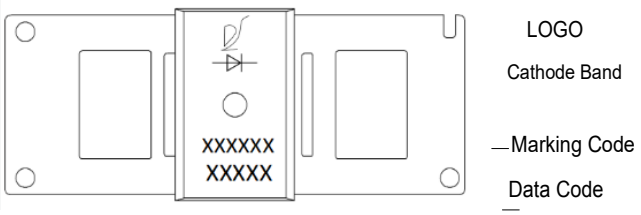
6. Dimensions





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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