

Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant(Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- AEC-Q101 Qualified

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 5°C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRD1045CTQ	MBRD1045CT	45V	32V	45V

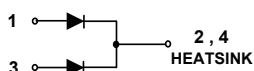
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Rectified Forward Current	$I_{F(AV)}$	10A	$T_C=120^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	120A	8.3ms, Half Sine, 1 cycle, $T_J=25^\circ\text{C}$
Current Squared Time	I^2t	60A ² s	1ms ≤ t ≤ 8.3ms, $T_J=25^\circ\text{C}$
Instantaneous Forward Voltage	V_F	0.51V(Typ.) 0.58V(Max.) 0.45V(Typ.) 0.55V(Max.)	$I_F=5\text{A}; T_J=25^\circ\text{C}$ $I_F=5\text{A}; T_J=25^\circ\text{C}$ $I_F=5\text{A}; T_J=125^\circ\text{C}$ $I_F=5\text{A}; T_J=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	0.1mA 100mA	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
Typical Junction Capacitance	C_J	270pF	Measured at 1.0MHz $V_R=4.0\text{V}$

Note:

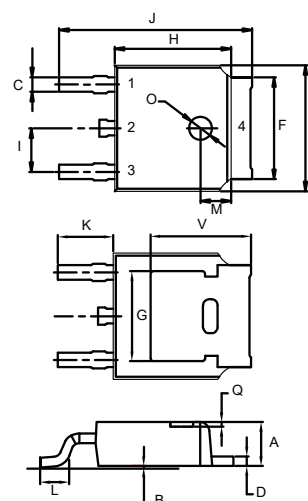
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

Internal Structure:



10 Amp Schottky Barrier Rectifier 45 Volts

(TO-252) DPAK



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

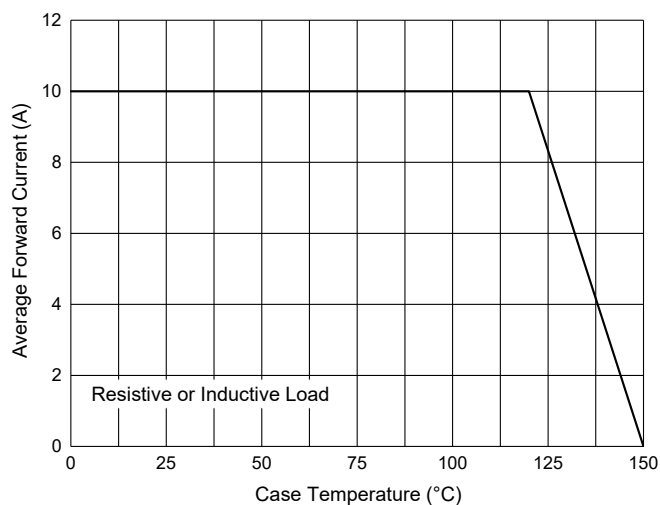


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

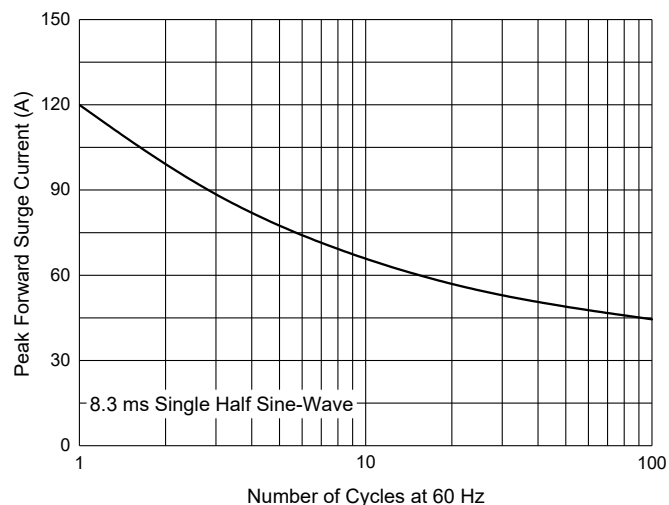


Fig. 3 - Typical Instantaneous Forward Characteristics

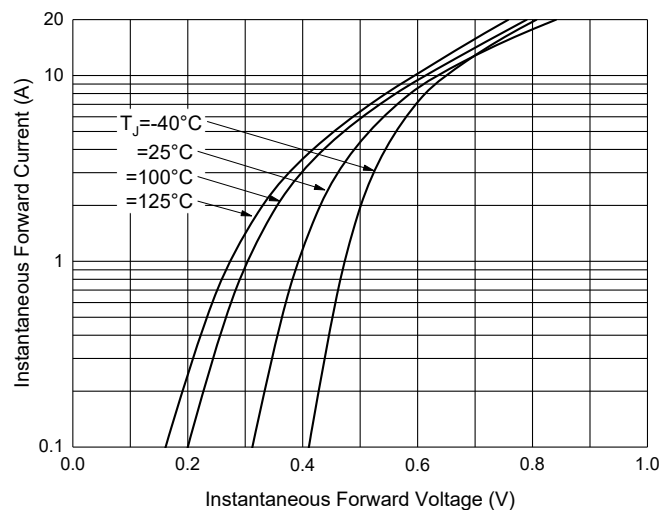


Fig. 4 - Typical Reverse Leakage Characteristics

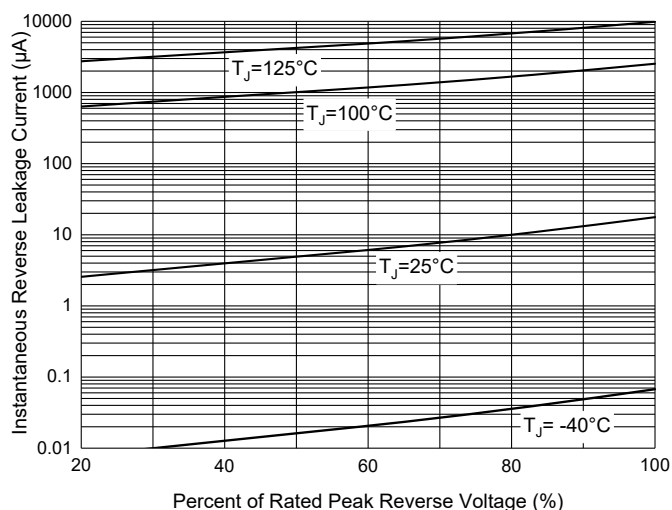
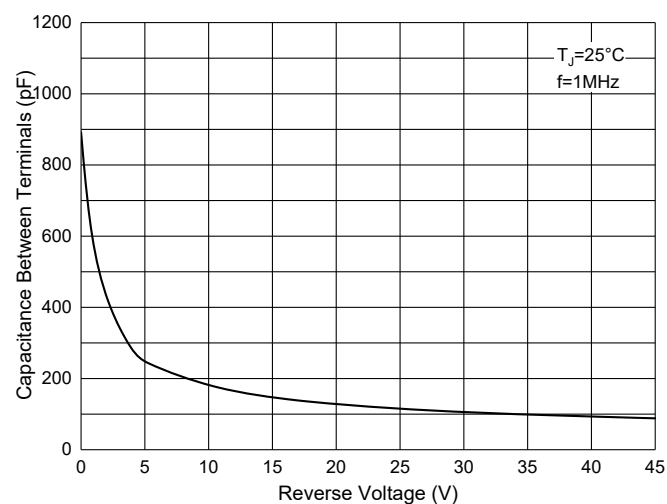


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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