

**Features**

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Extremely Low Forward Drop
- Extremely Fast Switching

**Maximum Ratings**

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Typical Thermal Resistance: 3°C/W Junction to Case

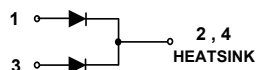
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRD1220CT	MBRD1220CT	20V	14V	20V
MBRD1230CT	MBRD1230CT	30V	21V	30V
MBRD1245CT	MBRD1245CT	45V	32V	45V

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Max Average Forward Rectified Current	$I_{F(AV)}$	12A	$T_C=135^\circ\text{C}$
Max Surge Current	$I_{FSM}$	150A	8.3ms, Half Sine
Peak Forward Voltage	$V_{FM}$	0.47V 0.45V	$I_{FM}=6.0\text{A}; T_J=25^\circ\text{C}$ $I_{FM}=6.0\text{A}; T_J=125^\circ\text{C}$
Peak Reverse Current	$I_{RM}$	0.1mA 10mA	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$

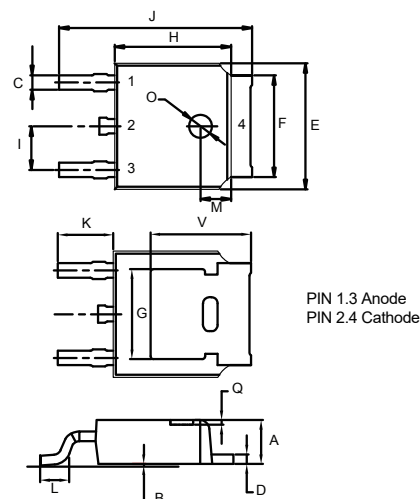
Note: 1. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

**Internal Structure:**



**12 Amp Schottky Rectifier  
20-45 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

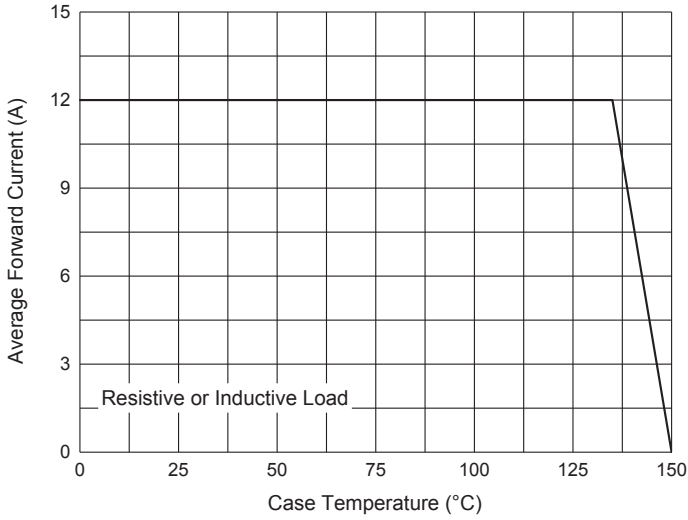


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

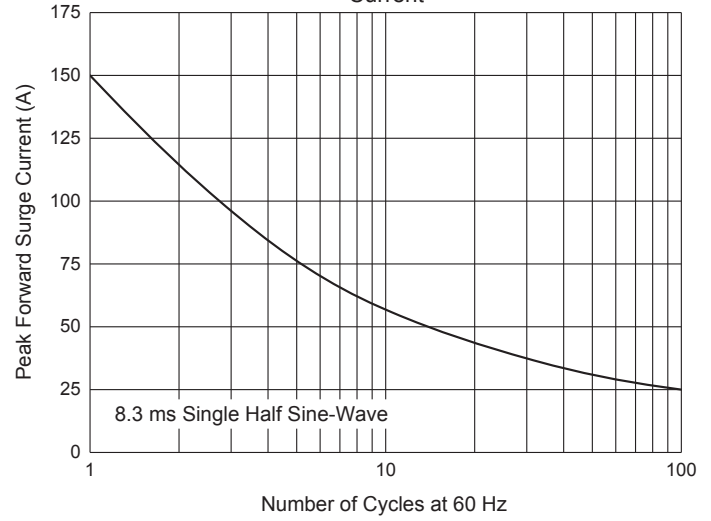


Fig. 3 - Typical Instantaneous Forward Characteristics

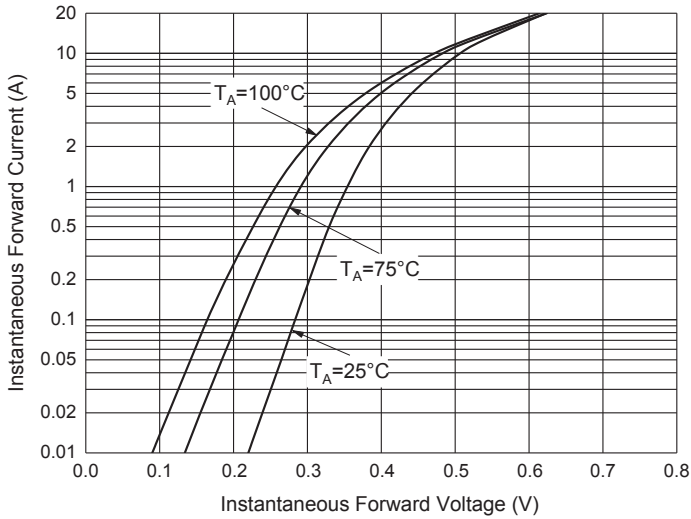
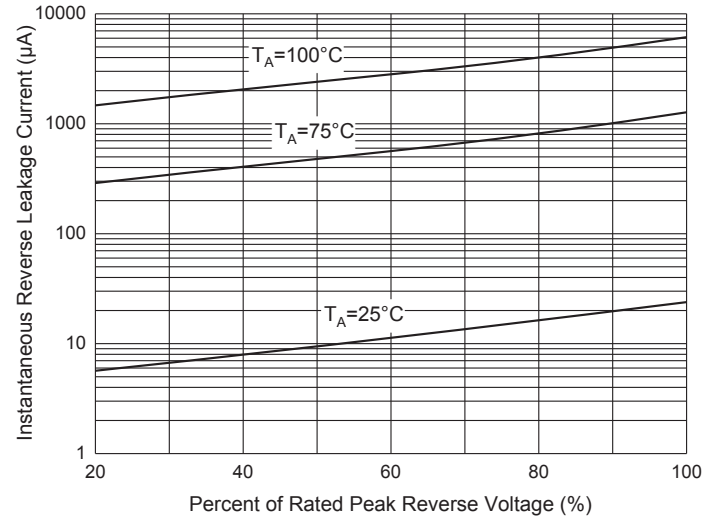


Fig. 4 - Typical Reverse Leakage Characteristics



**Ordering Information**

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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