

Features

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

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance : 2.0°C/W Junction to Case

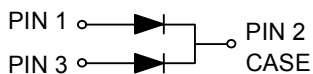
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRBL40100CT	MBRBL40100CT	100V	70V	100V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	40A	$T_C=100^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	300A	8.3ms, Half Sine
Current Squared Time	I^2t	373A ² S	1ms ≤ t < 8.3ms
Instantaneous Forward Voltage	V_F	0.65V(Typ.) 0.71V(Max.) 0.61V(Typ.) 0.75V(Max.)	$I_{FM}=20A T_J=25^\circ\text{C}$ $I_{FM}=20A T_J=25^\circ\text{C}$ $I_{FM}=20A T_J=125^\circ\text{C}$ $I_{FM}=20A T_J=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	0.08mA 20mA	$T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$
Typical Junction Capacitance	C_J	1nF	Measured at 1.0MHz, $V_R=4.0V$

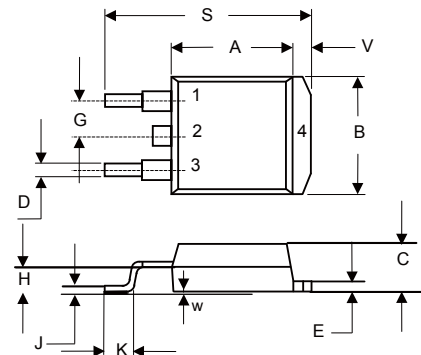
Note :1. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

Internal Structure:



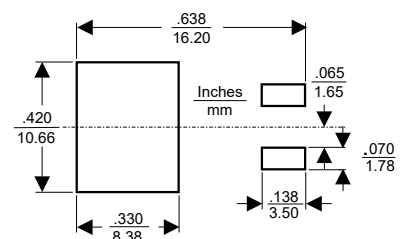
**40 Amp
Low VF
Schottky Barrier
Rectifier
100 Volts**

D²-PAK



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.010		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

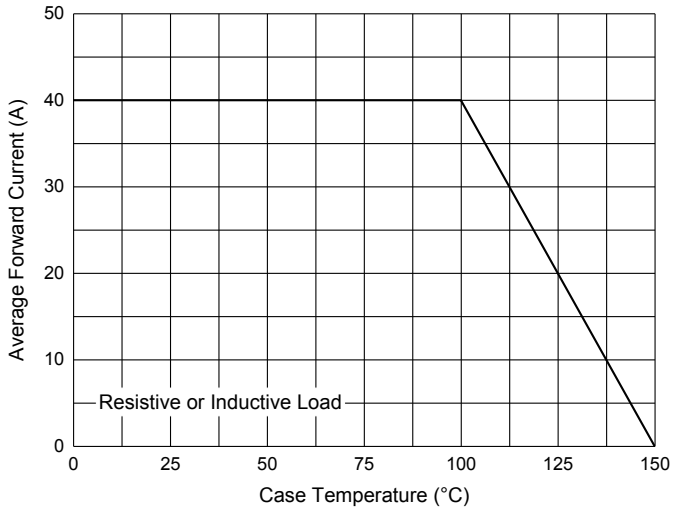


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

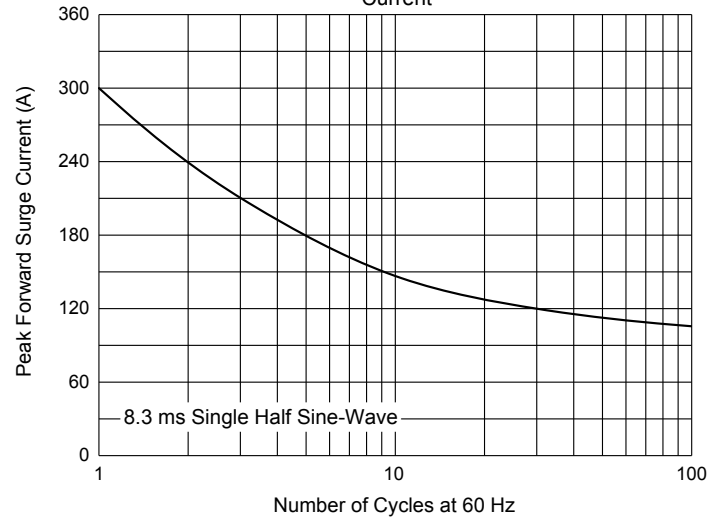


Fig. 3 - Typical Instantaneous Forward Characteristics

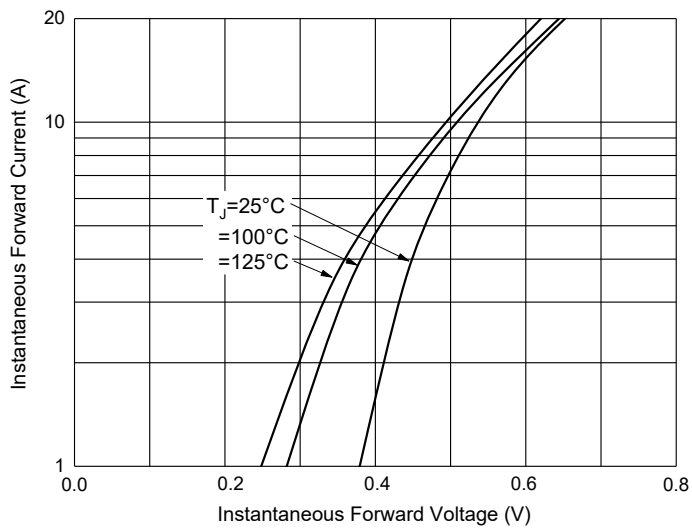
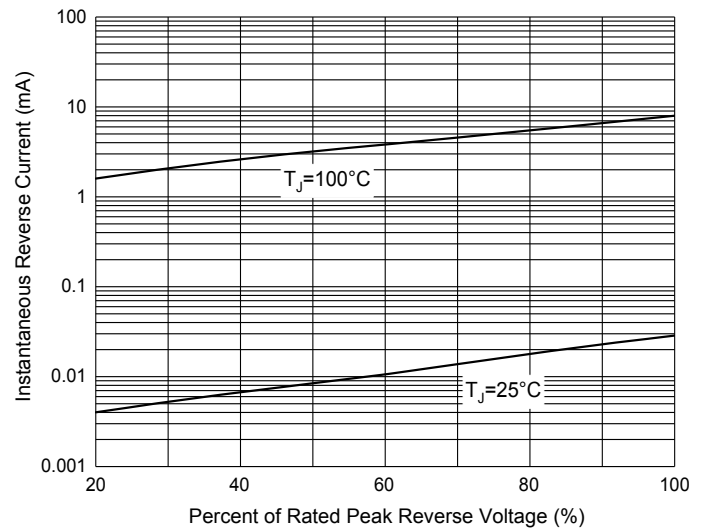


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 800pcs/Reel
Part Number-BP	Tube: 5Kpcs/Ctn

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

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