

Features

- Halogen Free. “Green” Device (Note 1)
- AEC-Q101 Qualified
- High Surge Forward Current Capability
- Low Power Loss, High Efficiency
- Lead Free Finish/RoHS Compliant (Note 2) (“P” Suffix Designates Compliant. See Ordering Information)
- 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
- Typical Thermal Resistance: 60 °C/W Junction to Ambient
- Typical Thermal Resistance: 8.0 °C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBR15U45HE3	15U45	45V	31.5V	45V

Electrical Characteristics @ 25°C Unless Otherwise Specified

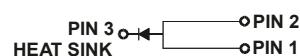
Average Forward Current	$I_{F(AV)}$	15A	$T_C = 110^\circ C$
Peak Forward Surge Current	I_{FSM}	300A	8.3ms, Half Sine
Forward Voltage	V_F	0.43V(Typ) 0.55V(Max) 0.54V(Typ) 0.75V(Max)	$I_F=5A \quad T_J=25^\circ C$ $I_F=15A \quad T_J=25^\circ C$
Reverse Current	I_R	0.1mA(Max) 50mA(Max)	$V_R=45; \quad T_J=25^\circ C$ $V_R=45; \quad T_J=100^\circ C$
Reverse Breakdown Voltage	V_{BR}	45V(Min)	$I_R=0.5mA$
Current Squared Time	I^2T	375 A ² s	1ms $\leq t < 8.3ms$ $T_J=25^\circ C$

Notes:

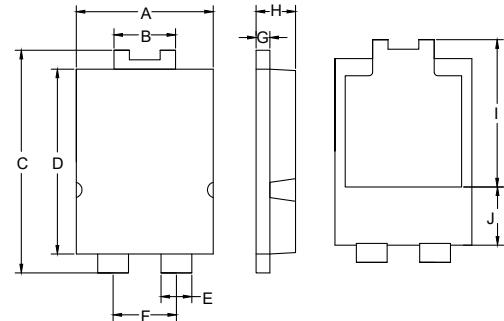
Notes:

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

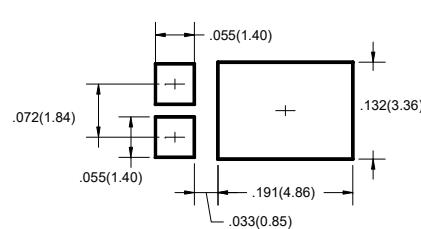


15 Amp Schottky Barrier Rectifier 45 Volts



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.154	0.161	3.90	4.10	
B	0.067	0.075	1.70	1.90	
C	0.252	0.260	6.40	6.60	
D	0.209	0.217	5.30	5.50	
E	0.031	0.039	0.80	1.00	
F	0.071	0.075	1.80	1.90	
G	0.014	0.018	0.35	0.45	
H	0.043	0.047	1.10	1.20	
I	0.161	0.177	4.10	4.50	
J	0.059	0.075	1.50	1.90	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

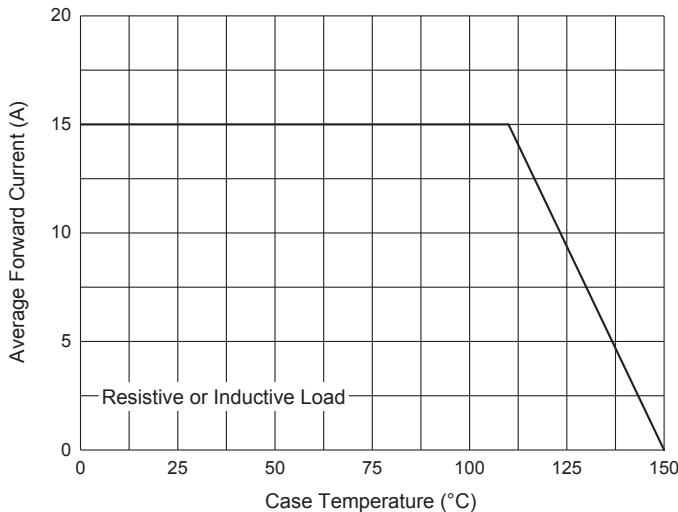


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

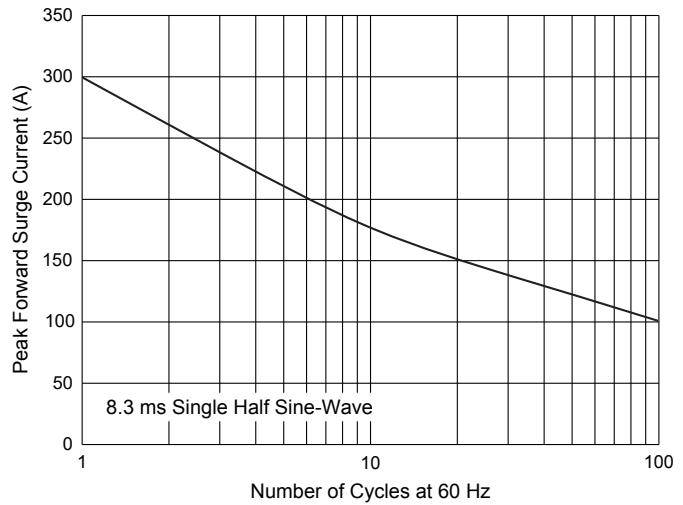


Fig. 3 - Typical Instantaneous Forward Characteristics

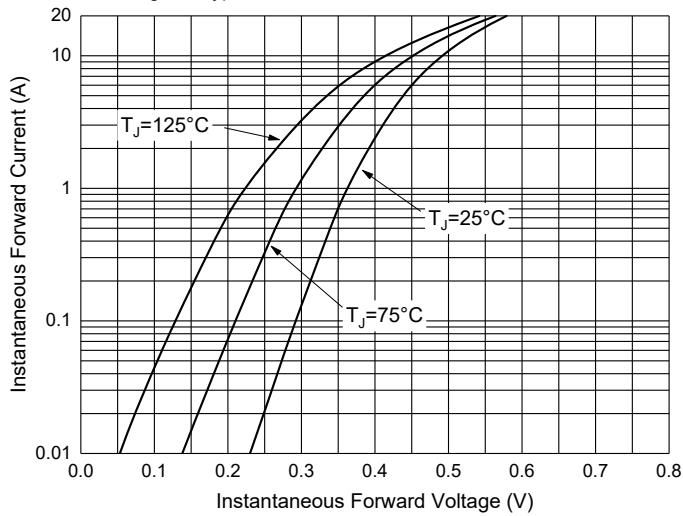
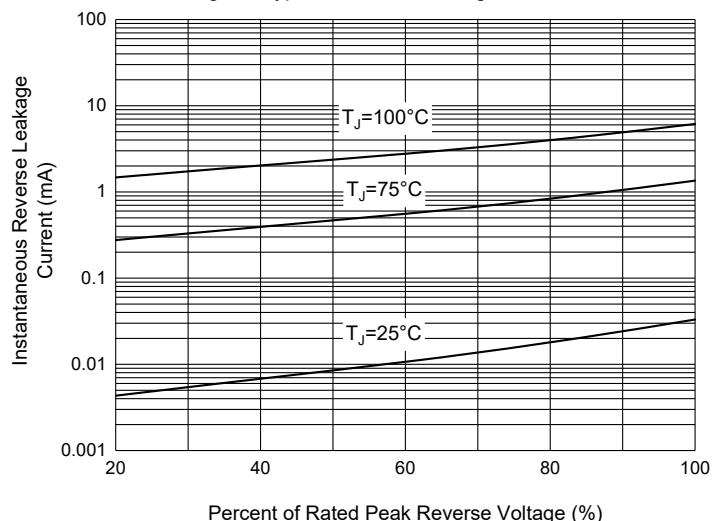


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 4Kpcs/Reel

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