

Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- High Surge Forward Current Capability
- Low Power Loss, High efficiency
- Lead Free Finish/RoHS Compliant(Note 1)("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
- Maximum Thermal Resistance:8.0 °C/W Junction to Case

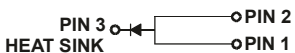
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBR10U45L	10U45L	45V	31.5V	45V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	I_O	10A	See Fig 1
Peak Forward Surge Current	I_{FSM}	275A	8.3ms,Half Sine
Forward Voltage	V_F	0.41V(Typ) 0.47V(Max) 0.37V(Typ) 0.40V(Max)	$I_F=10A T_J=25^{\circ}C$ $I_F=10A T_J=125^{\circ}C$
Reverse Current	I_R	0.5mA(Max) 100mA(Max)	$V_R=50; T_J=25^{\circ}C$ $V_R=50; T_J=125^{\circ}C$
Reverse Breakdown Voltage	V_{BR}	45V(Min)	$I_R=0.1mA$
Current Squared Time	I^2T	313 A ² s	$1ms \leq t < 8.3ms$ $T_J=25^{\circ}C$

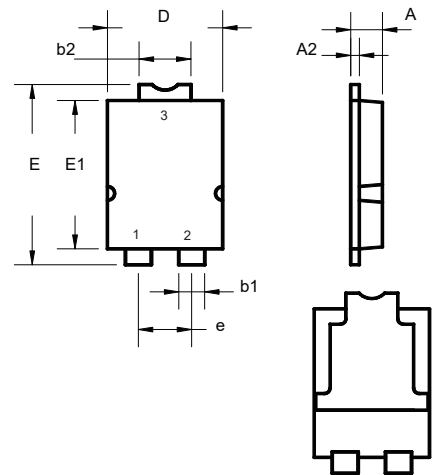
Notes: 1.High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

Internal Structure



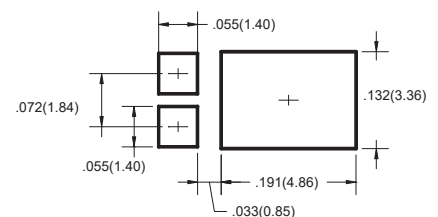
**10 Amp Low VF Schottky Barrier Rectifier
45 Volts**

TO-277



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.041	0.045	1.05	1.15	
A2	0.010	0.014	0.25	0.35	
b1	0.031	0.039	0.80	1.00	
b2	0.067	0.075	1.70	1.90	
D	0.154	0.161	3.90	4.10	
E	0.252	0.260	6.40	6.60	
E1	0.205	0.215	5.20	5.40	
e	0.071	0.075	1.80	1.90	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

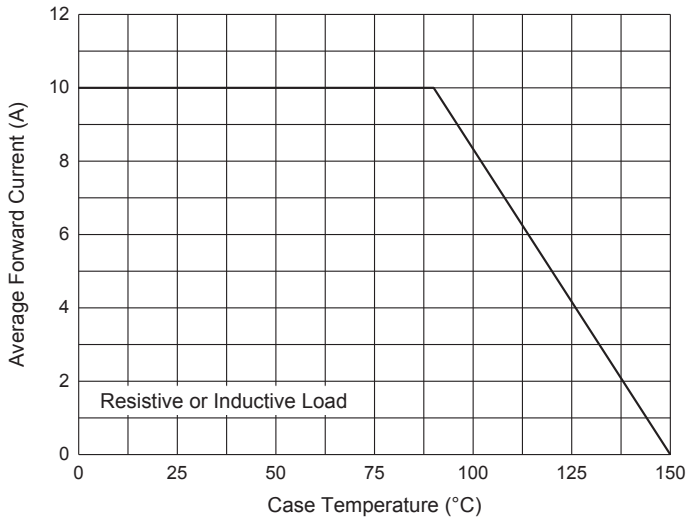


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

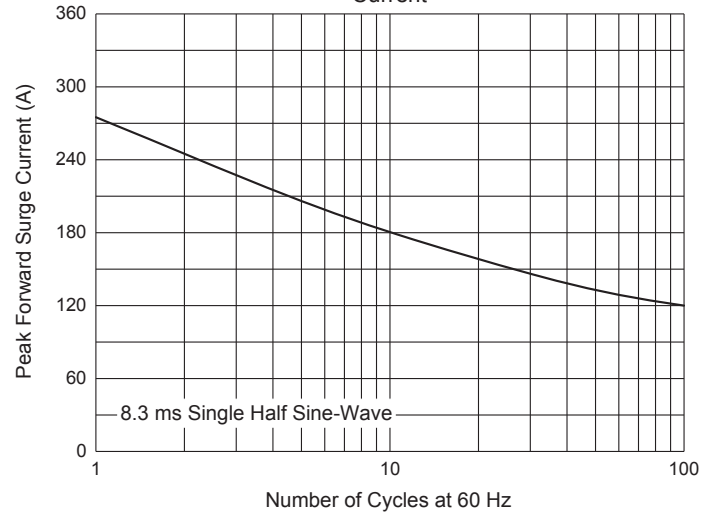


Fig. 3 - Typical Instantaneous Forward Characteristics

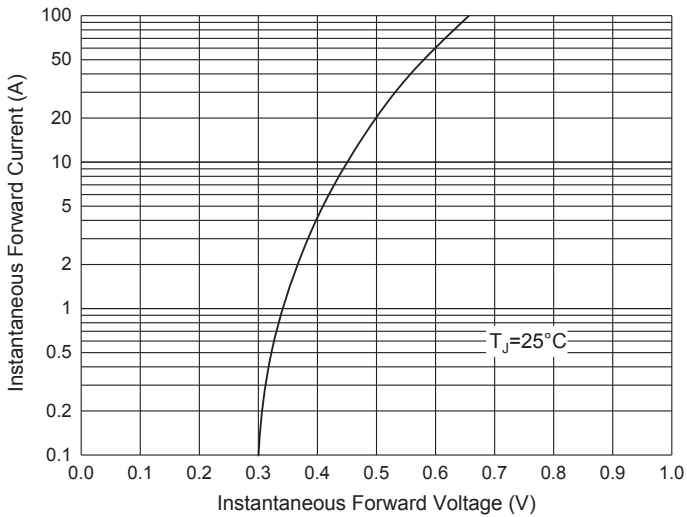
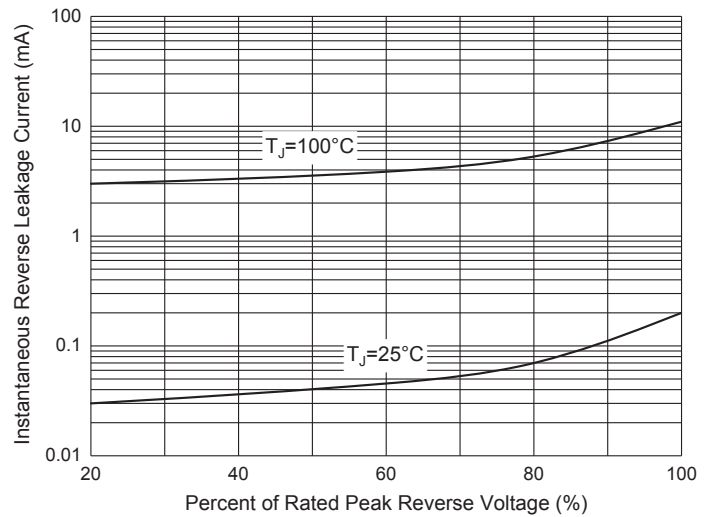


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

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

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

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