

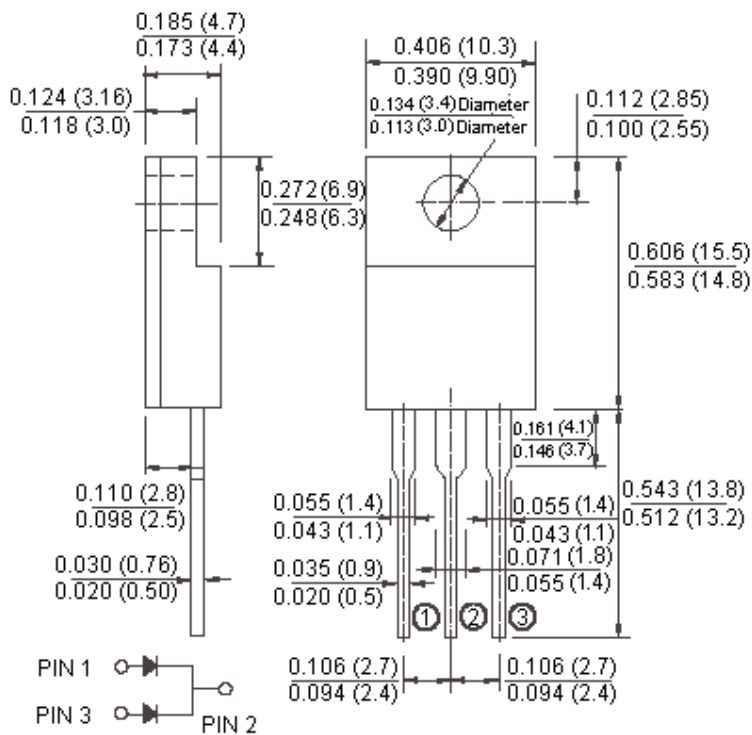
MBRF10xCT Series



Features:

- Plastic material.
- Metal silicon junction, majority carrier conduction.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Guardring for over voltage protection.
- High temperature soldering guaranteed: 260°C/10 seconds, 0.25 inch (6.35mm) from case.

ITO-220AB



Mechanical Data:

Cases	: ITO-220AB moulded plastic.
Terminals	: Leads solderable per M IL-STD-2026.
Polarity	: As marked.
Mounting position	: Any.
Mounting torque	: 5in. - lbs. maximum.
Weight	: 0.08 ounce, 2.24 grams.



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Type Number	Symbol	MBRF 1035 CT	MBRF 1045 CT	MBRF 1060 CT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	60	V
Maximum RMS Voltage	V_{RMS}	24	31	42	
Maximum DC Blocking Voltage	V_{DC}	35	45	60	
Maximum Average Forward Rectified Current at $T_C = 133^\circ\text{C}$	$I_{(AV)}$	10			A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C = 133^\circ\text{C}$	I_{FRM}	10.0			
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150			
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	0.5			
Maximum Instantaneous Forward Voltage at (Note 2) $I_F = 5\text{A}, T_C = 25^\circ\text{C}$ $I_F = 5\text{A}, T_C = 125^\circ\text{C}$ $I_F = 10\text{A}, T_C = 25^\circ\text{C}$ $I_F = 10\text{A}, T_C = 125^\circ\text{C}$	V_F	0.70 0.57	0.80 0.65		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage at $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	I_R		0.1 15		μA μA
Voltage Rate of Change (Rated V_R)	dV/dt		10,000		V/ μS
RMS Isolation Voltage (t = 1.0 second, R.H. $\leq 30\%$, $T_A = 25^\circ\text{C}$) (Note 4) (Note 5) (Note 6)	V_{ISO}		4500 3500 1500		V
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$		3.5		$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J		-65 to +150		$^\circ\text{C}$
Storage Temperature Range	T_{STG}				

Notes: 1. 2.0 μs Pulse Width, f = 1.0KHz.

2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle.

3. Thermal Resistance from Junction to Case Per Leg.

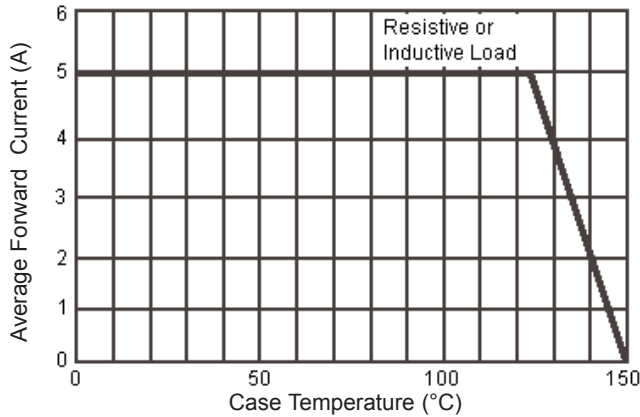
4. Clip Mounting (On Case), Where Lead Does Not Overlap Heatsink With 0.110 Inch Offset.

5. Clip Mounting (On Case), Where Leads Do Overlap Heatsink.

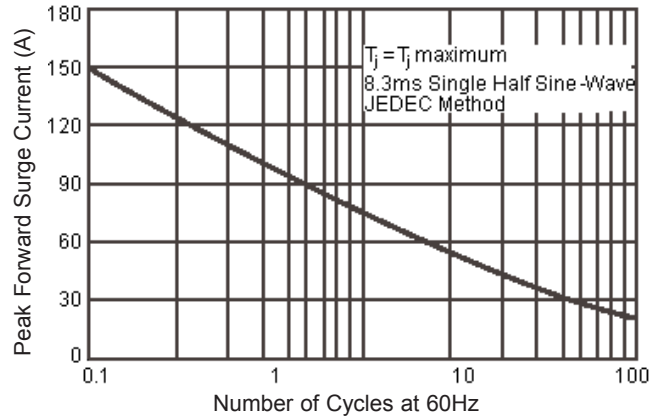
6. Screw Mounting with 4-40 Screw, Where Washer Diameter is $\leq 4.9\text{mm}$ (0.19 inch).

Ratings and Characteristic Curves (MBRF1035CT, MBRF1045CT and MBRF1060CT)

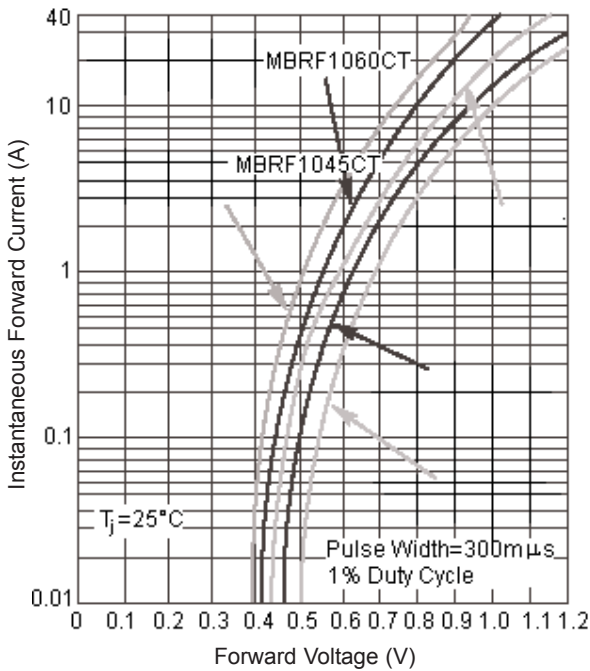
Forward Current Derating Curve



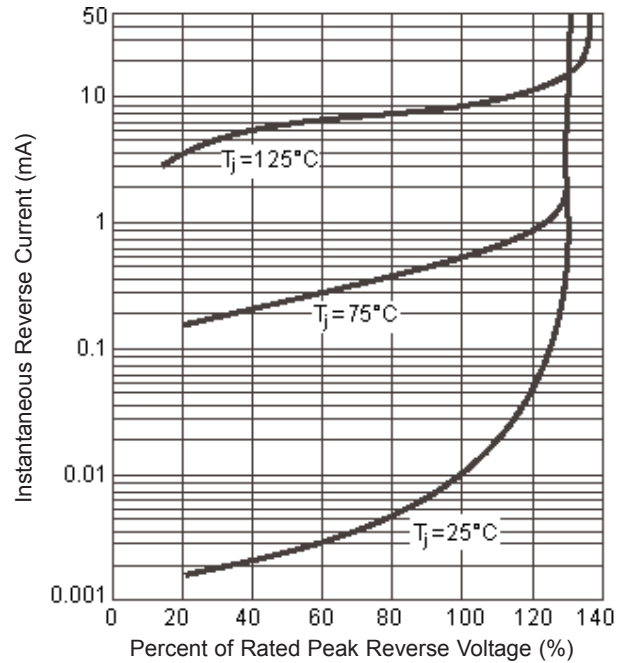
Maximum Non-Repetitive Peak Forward Surge Current Per Leg



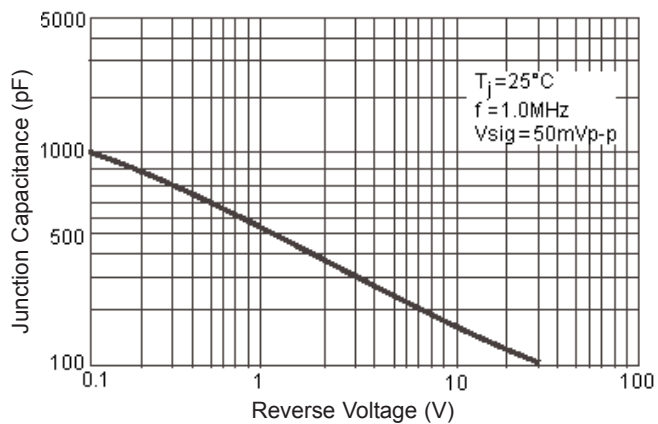
Typical Instantaneous Forward Characteristics



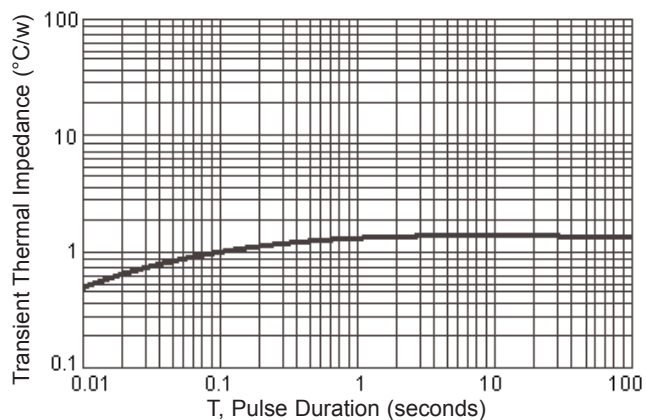
Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Characteristics Per Leg



Part Number Table

Description	Part Number
Diode, Schottky, 10A, 35V	MBRF1035CT
Diode, Schottky, 10A, 45V	MBRF1045CT
Diode, Schottky, 10A, 60V	MBRF1060CT

MBRF10xCT Series



Notes:

International Sales Offices:

 AUSTRALIA – Farnell Tel No: ++61 1300 361 005 Fax No: ++61 1300 361 225	 FINLAND – Farnell Tel No: ++358 9 560 7780 Fax No: ++358 9 345 5411	 ITALY – Farnell Tel No: ++39 02 93 995 200 Fax No: ++39 02 93 995 300	 SPAIN – Farnell Tel No: 901 20 20 80 Fax No: 901 20 20 80
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