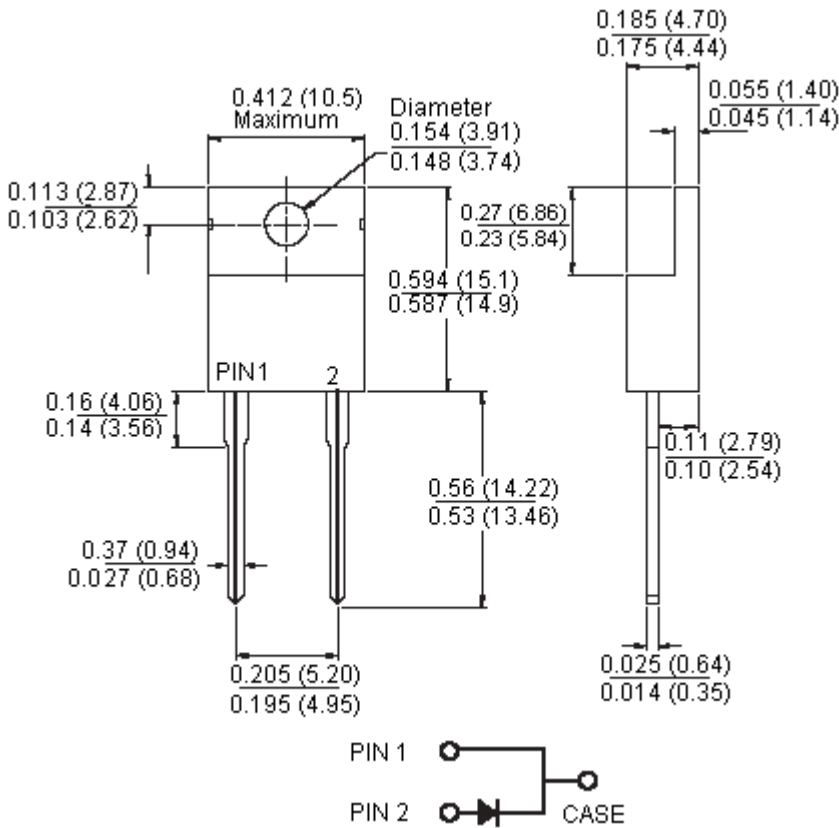




Features:

- High efficiency, low V_F .
- High current capability
- High reliability
- High surge current capability
- For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

TO-220AC



Dimensions : Inches (Millimetres)

Mechanical Data:

Cases	: TO-220AC moulded plastic.
Terminals	: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: As marked.
High temperature soldering guaranteed	: 260°C/10 seconds/.25 inch, (6.35mm) from case.
Weight	: 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	MUR820	MUR840	MUR860	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	
Maximum DC Blocking Voltage	V_{DC}	200	400	600	
Maximum Average Forward Rectified Current 0.375 inch (9.5mm) Lead Length	$I_{(AV)}$	8.0			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100			
Maximum Instantaneous Forward Voltage at 8.0A	V_F	0.975	1.30	1.7	V
Maximum DC Reverse Current at $T_C = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_C = 125^\circ\text{C}$ (Note 4)	I_R	5.0 250			μA μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	25	50		nS
Maximum Forward Recovery Time T_{FR} ($I_F = 1.0\text{A}$, $di/dt = 50\text{A}/\mu\text{S}$),	T_{fr}	35			
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3.0	2.0		$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-65 to +175			$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175			

Notes: 1. Measured at 1MHz and Applied Reverse Voltage of 4.0 Volts DC.

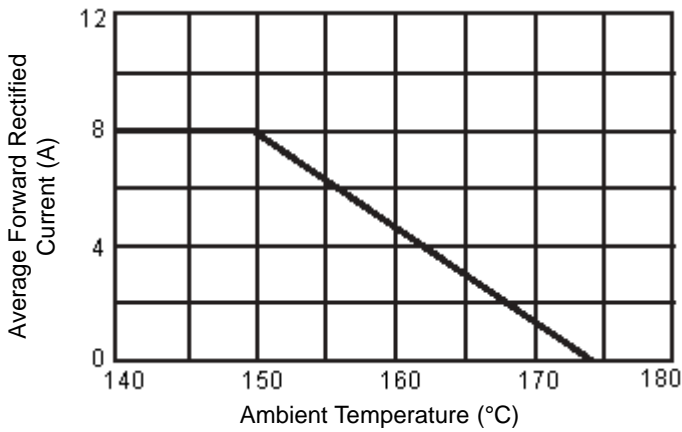
2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.

3. Thermal Resistance from Junction to Case, Mounted on Heatsink Size of 2 x 3 x 0.25 inches Al-Plate.

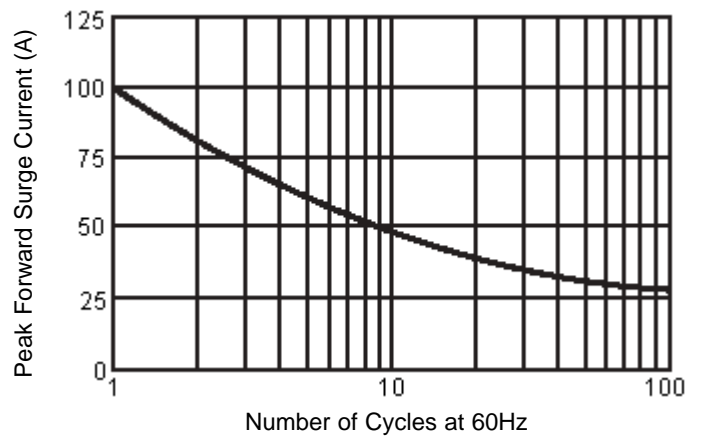
4. Pulse lest: $t_p = 300\mu\text{S}$, Duty Cycle < 2%.

Ratings and Characteristic Curves (MBR15100CT, MBR1545CT and MBR1560CT)

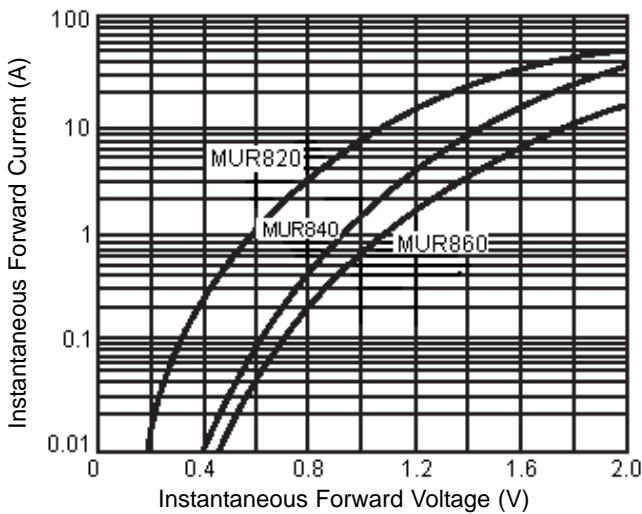
Forward Current Derating Curve



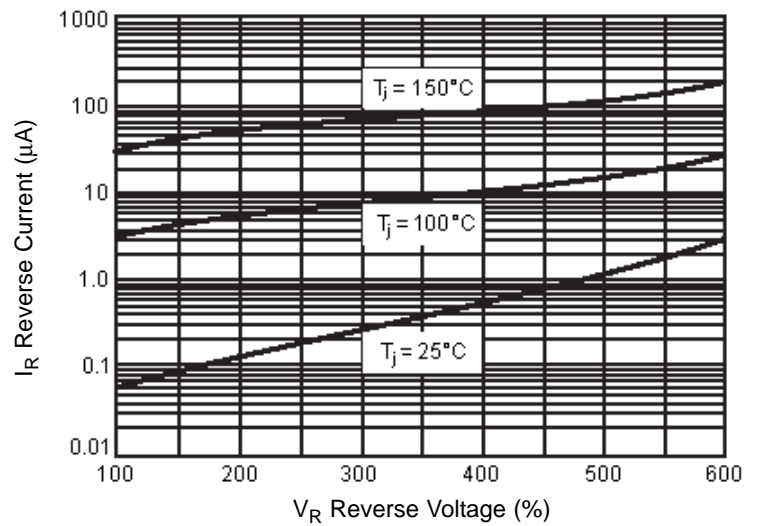
Maximum Non-Repetitive Forward Surge Current



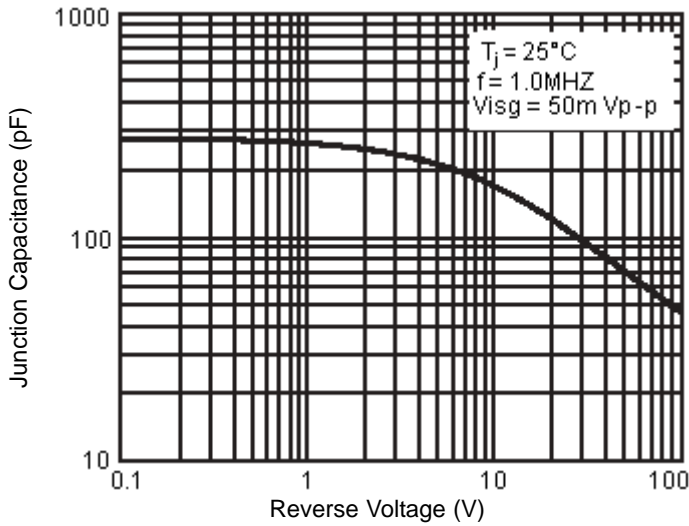
Typical Instantaneous Forward Characteristics



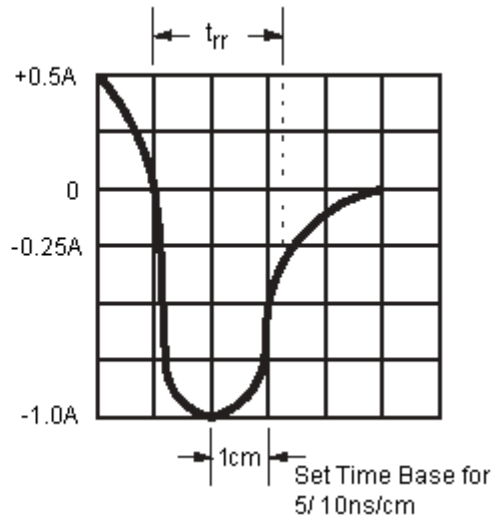
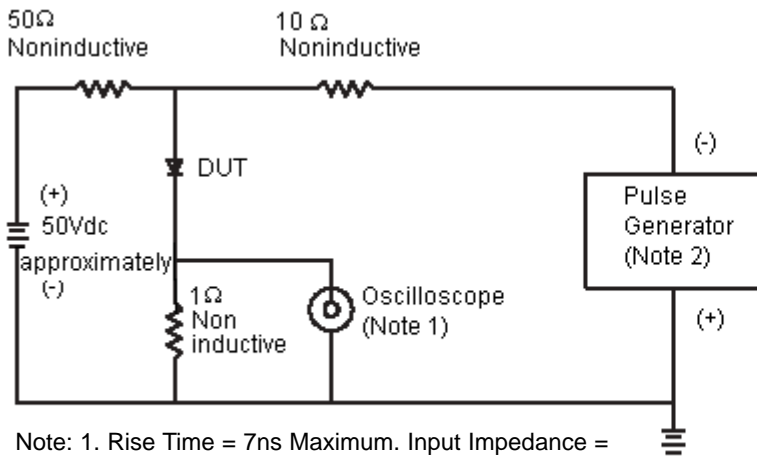
Typical Reverse Characteristics



Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf
 2. Rise Time = 10ns Maximum Source Impedance = 50 ohms

Part Number Table

Description	Part Number
Diode, Ultra-Fast, 8A, 200V	MUR820
Diode, Ultra-Fast, 8A, 400V	MUR840
Diode, Ultra-Fast, 8A, 600V	MUR860

Notes:

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