



MBR(F)3045CT

Schottky Barrier Rectifier

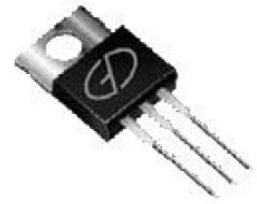
Reverse Voltage 45 Volts Forward Current 30 Amperes

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection



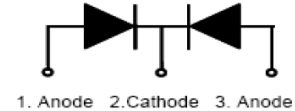
Package: ITO-220-AB



Package: TO-220-AB

Mechanical Data

- Case: Epoxy, Molded
- Weight: 1.9grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube



Maximum Ratings & Electrical Characteristics

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	MBR(F)3045CT	UNIT	
Maximum repetitive peak reverse voltage		V_{RRM}	45	V	
Working peak reverse voltage		V_{RWM}	45	V	
Maximum DC blocking voltage		V_{DC}	45	V	
Maximum average forward rectified current at $T_c=105^{\circ}\text{C}$ total device per diode		$I_F(AV)$	30 15	A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	200	A	
Peak repetitive reverse current per leg at $t_p=2.0\mu\text{s}$, 1KHz		I_{RRM}	1.0	A	
Voltage rate of change (rated V_R)		DV/dt	10000	V/ μs	
Operating junction temperature range		T_J	-55 to +150	$^{\circ}\text{C}$	
Storage temperature range		T_{STG}	-55 to +150	$^{\circ}\text{C}$	
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec		V_{AC}	1500	V	
Maximum instantaneous forward voltage per leg	$I_F=15\text{A}$ $I_F=15\text{A}$	$T_C=25^{\circ}\text{C}$ $T_C=125^{\circ}\text{C}$	V_F	0.71 0.64	V
Maximum reverse current per leg at working peak Reverse voltage		$T_J=25^{\circ}\text{C}$ $T_J=100^{\circ}\text{C}$	I_R	200 15	μA mA
Thermal Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted					
Symbol	Parameter	TYP (TO-220-AB)	TYP (ITO-220-AB)	Unit	
R θ JC	Thermal Resistance, Junction to Case per Leg	2.0	4.0	$^{\circ}\text{C}/\text{W}$	
R θ JA	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	$^{\circ}\text{C}/\text{W}$	

Note: Pulse test: 300 μs pulse width, duty cycle=2%



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Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

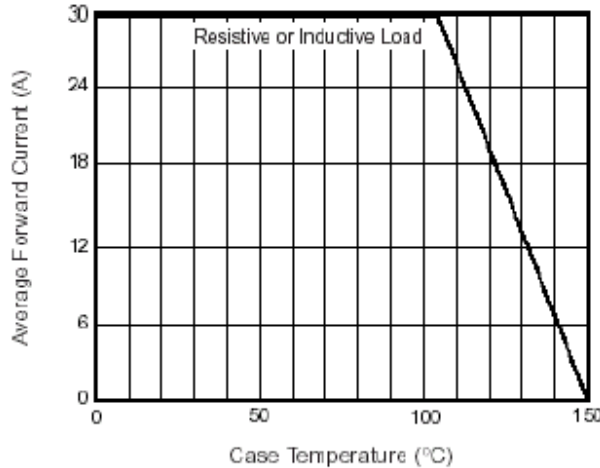


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

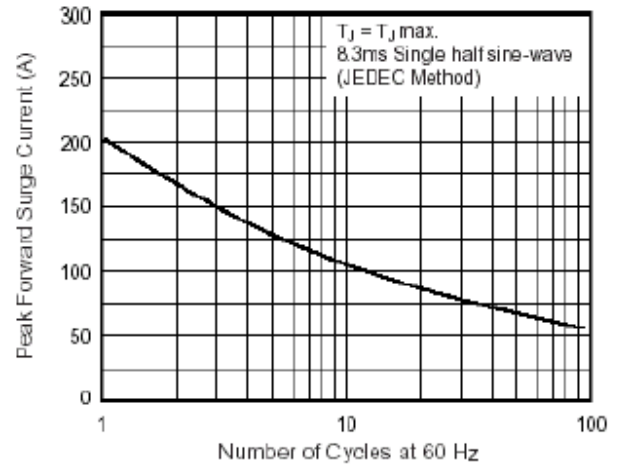


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

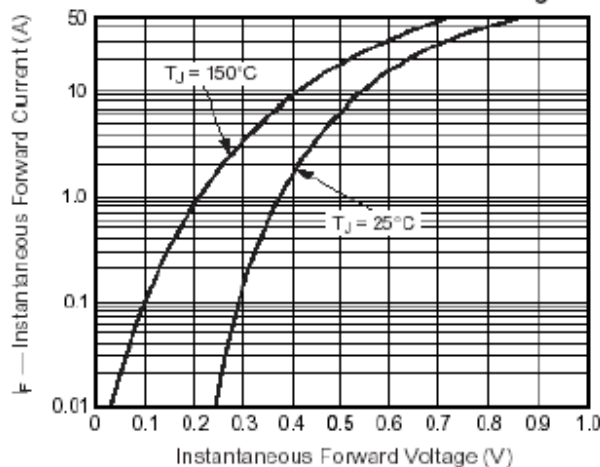


Fig. 4 – Typical Reverse Characteristics Per Leg

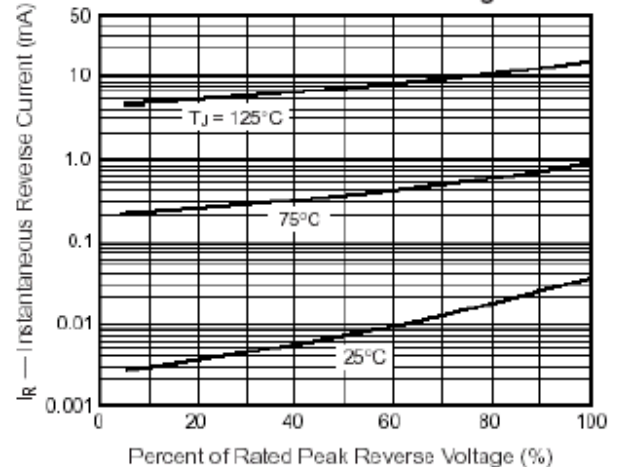


Fig. 5 – Typical Junction Capacitance Per Leg

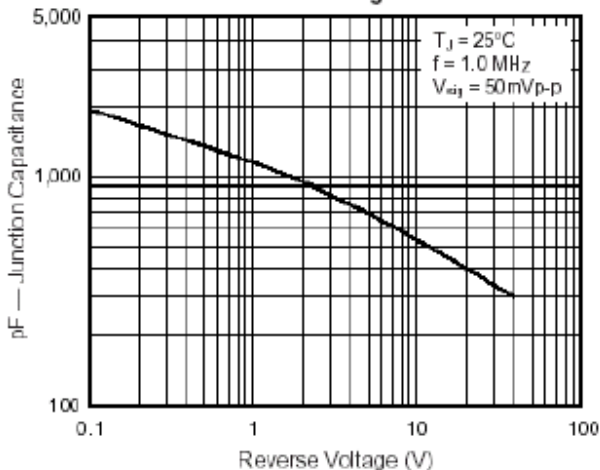
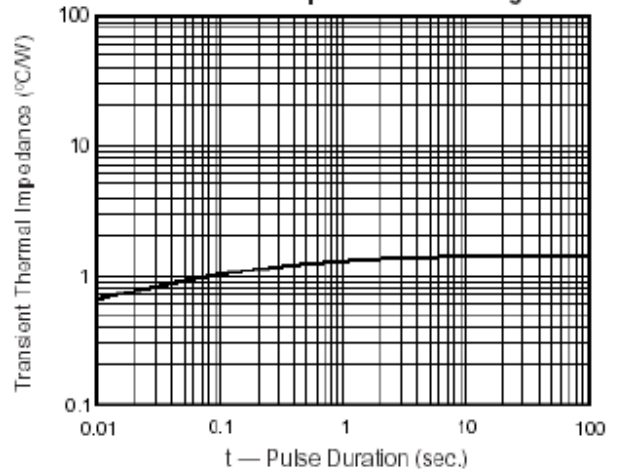


Fig. 6 – Typical Transient Thermal Impedance Per Leg





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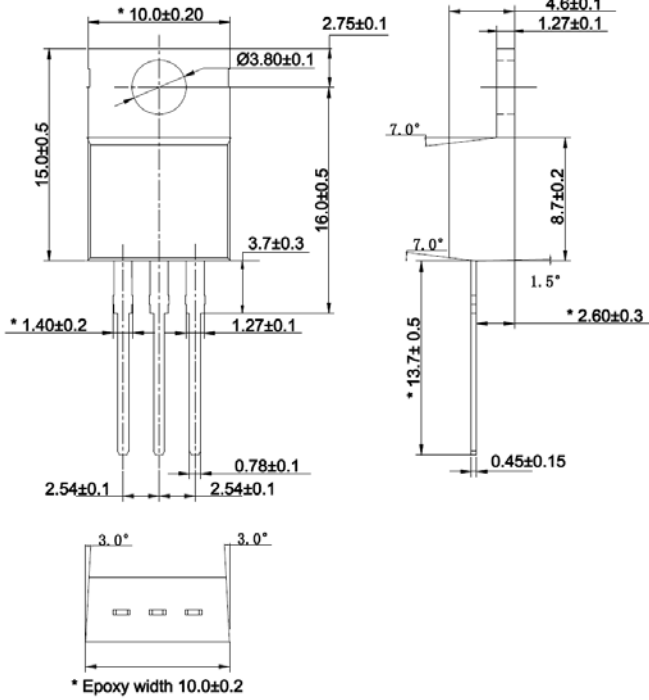
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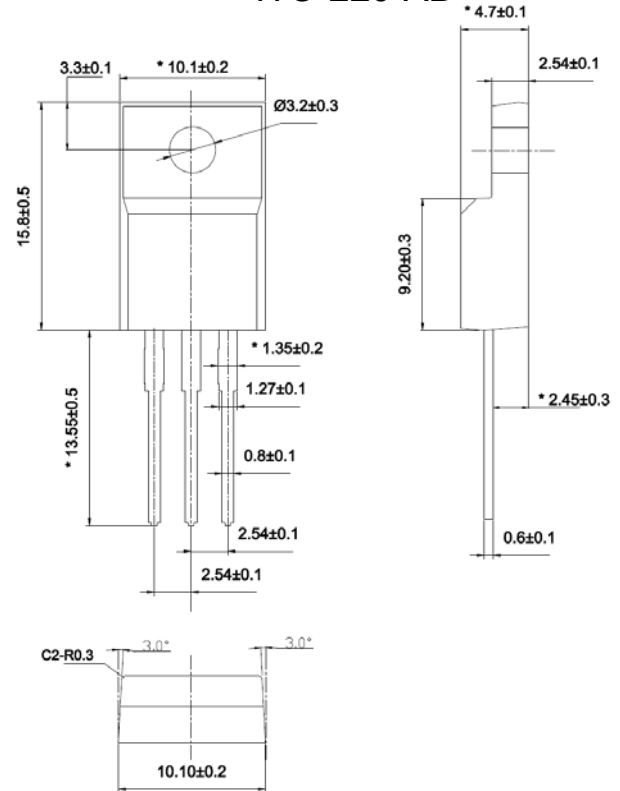
Package Outline Dimensions

Unit: millimeters

TO-220-AB



ITO-220-AB





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