



# MBR(F)20100CT

Schottky Barrier Rectifier

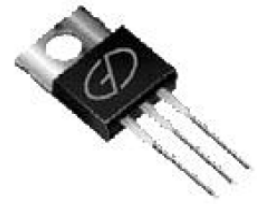
Reverse Voltage 100 Volts Forward Current 20 Amperes

## 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



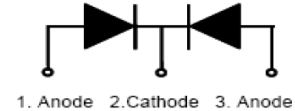
Package: ITO-220-AB



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)20100CT	UNIT	
Maximum repetitive peak reverse voltage		$V_{RRM}$	100	V	
Working peak reverse voltage		$V_{RWM}$	100	V	
Maximum DC blocking voltage		$V_{DC}$	100	V	
Maximum average forward rectified current at $T_c=105^\circ\text{C}$ total device per diode		$I_{F(AV)}$	20 10	A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		$I_{FSM}$	150	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/ $\mu\text{s}$	
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	$I_F=10\text{A}$ $I_F=10\text{A}$	$T_C=25^\circ\text{C}$ $T_C=125^\circ\text{C}$	$V_F$	0.85 0.79	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	$\mu\text{A}$ mA
<b>Thermal Characteristics <math>T_A=25^\circ\text{C}</math> unless otherwise noted</b>					
Symbol	Parameter	TYP (TO-220-AB)	TYP (ITO-220-AB)	Unit	
R $\theta$ JC	Thermal Resistance, Junction to Case per Leg	2.0	4.0	$^\circ\text{C}/\text{W}$	
R $\theta$ JA	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	$^\circ\text{C}/\text{W}$	

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



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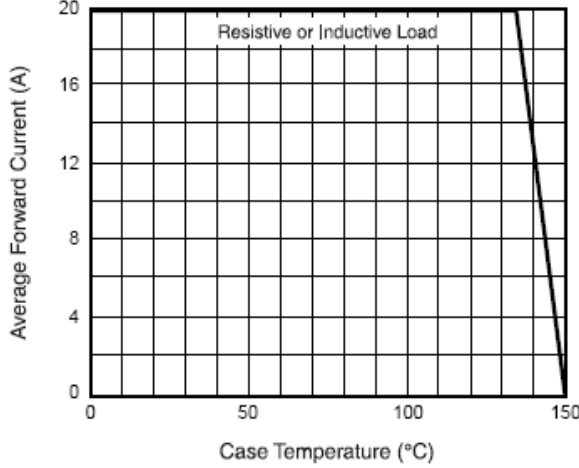
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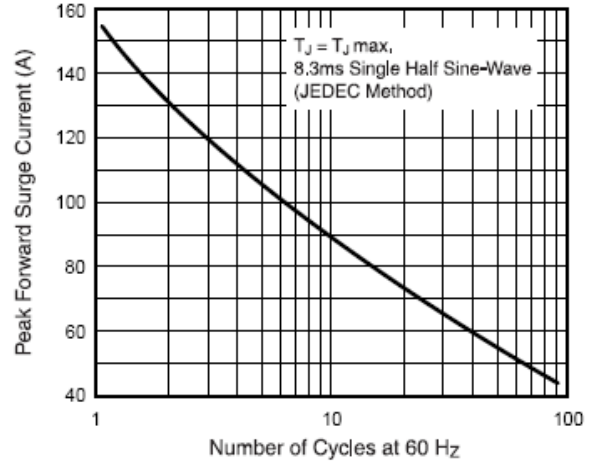
## Ratings and Characteristics Curves

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

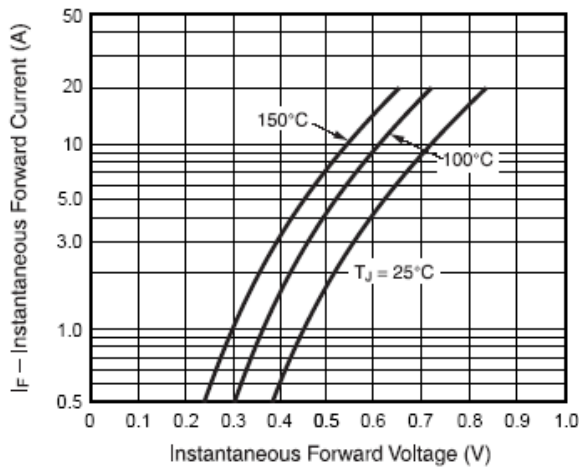
**Fig. 1 - Forward Current Derating Curve**



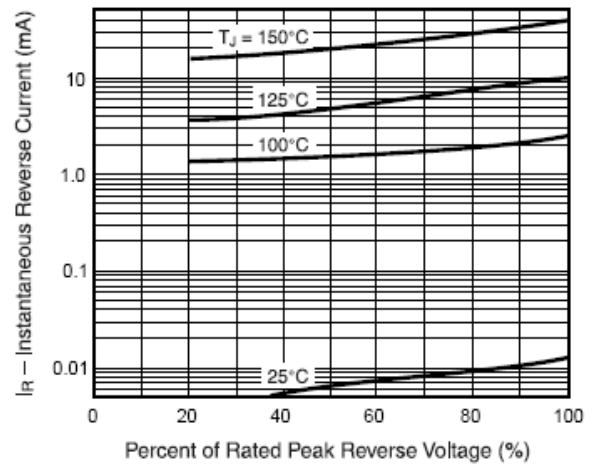
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



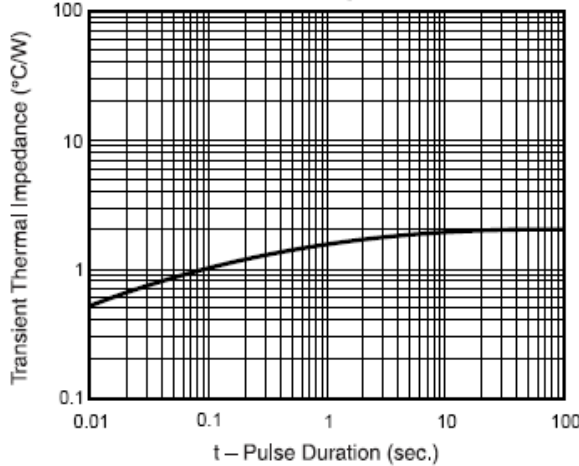
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Transient Thermal Impedance**





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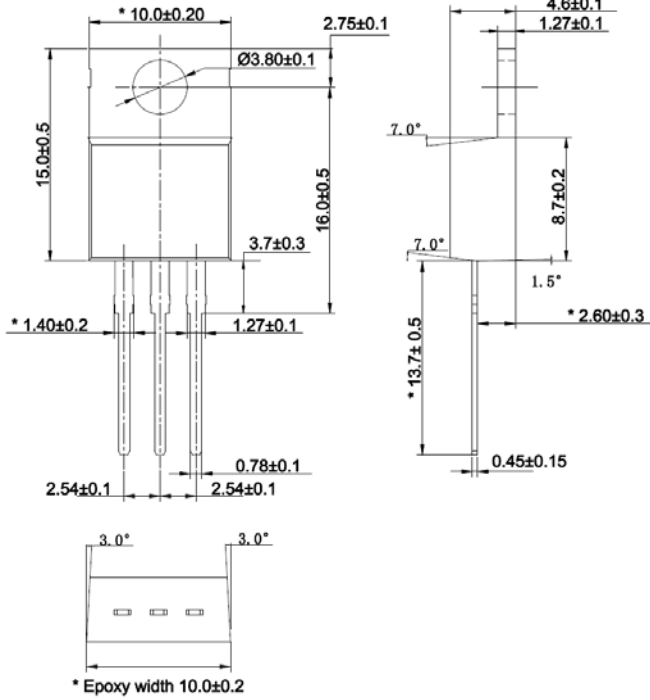
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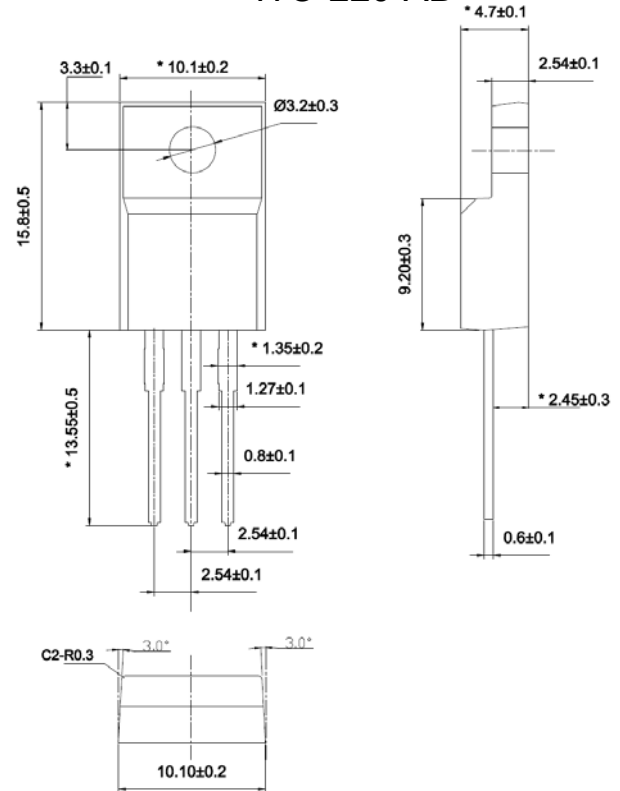
## Package Outline Dimensions

Unit: millimeters

### TO-220-AB



### ITO-220-AB





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