



HBR(F)10100

Trench Schottky Barrier Rectifier
Reverse Voltage 100 Volts Forward Current 10 Amperes

Features

Plastic package has underwriters Laboratory

Flammability Classification 94V-0

- Single rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection



Package: TO-220-AC

Package: ITO-220-AC

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	HBR(F)10100	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		$I_{F(AV)}$	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/ 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-AC 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	0.73 0.65	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	100 15	μA mA
Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted					
Symbol	Parameter	TYP (TO-220-AC)	TYP (ITO-220-AC)	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:300us 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

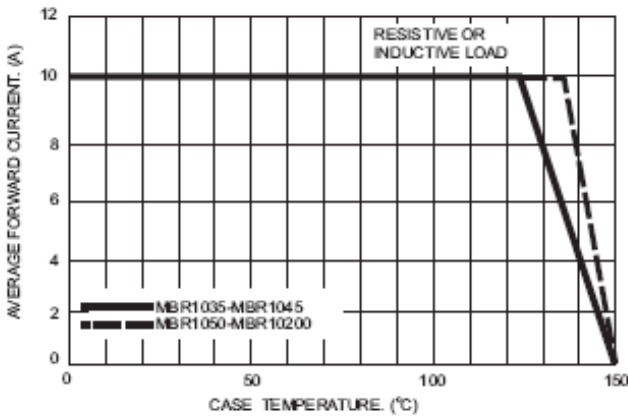


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

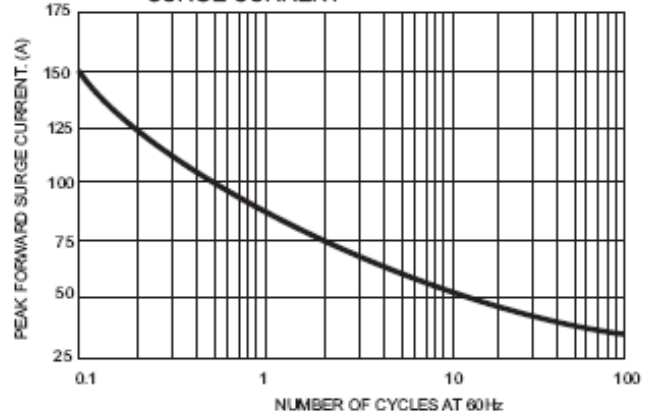


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

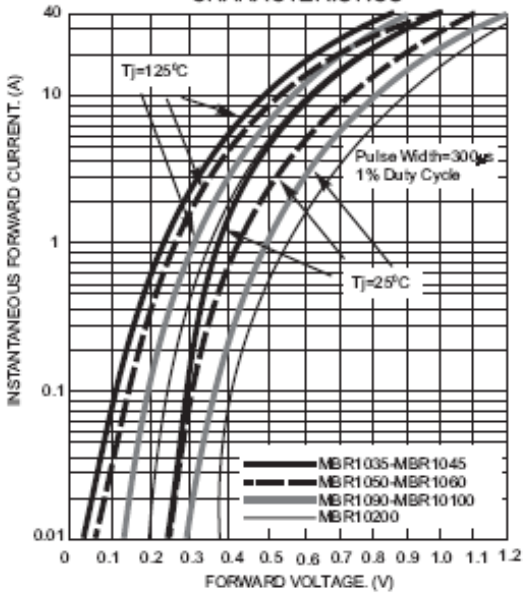


FIG.4- TYPICAL REVERSE CHARACTERISTICS

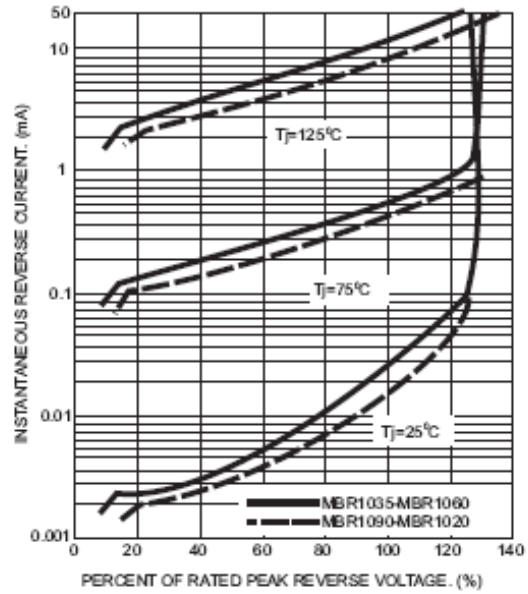


FIG.5- TYPICAL JUNCTION CAPACITANCE

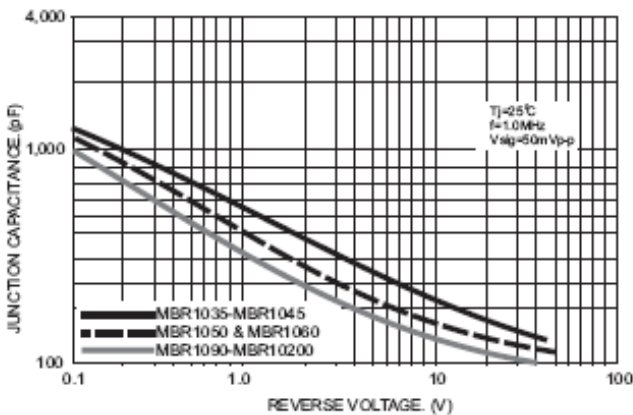
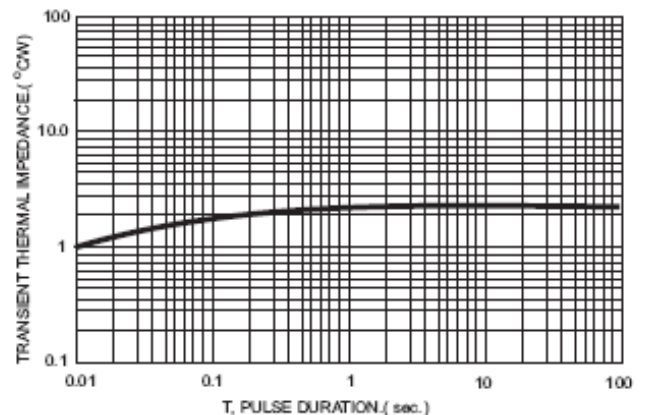


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC





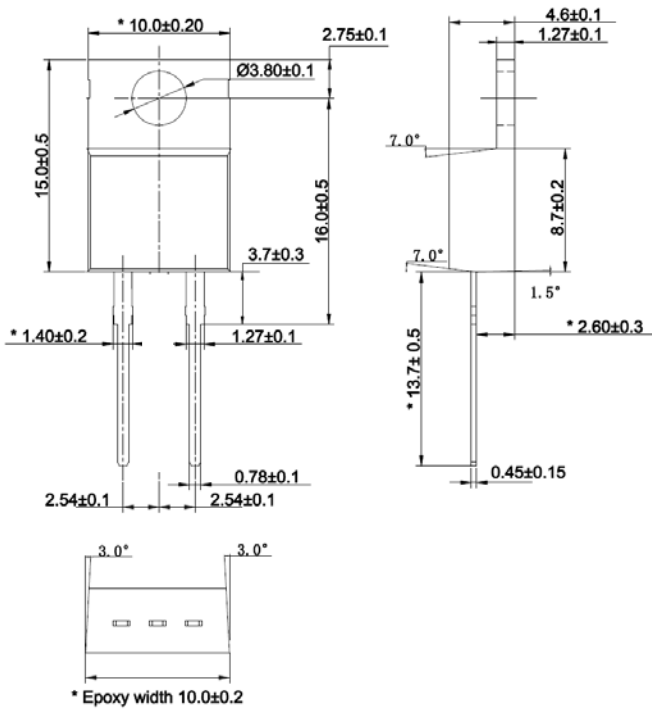
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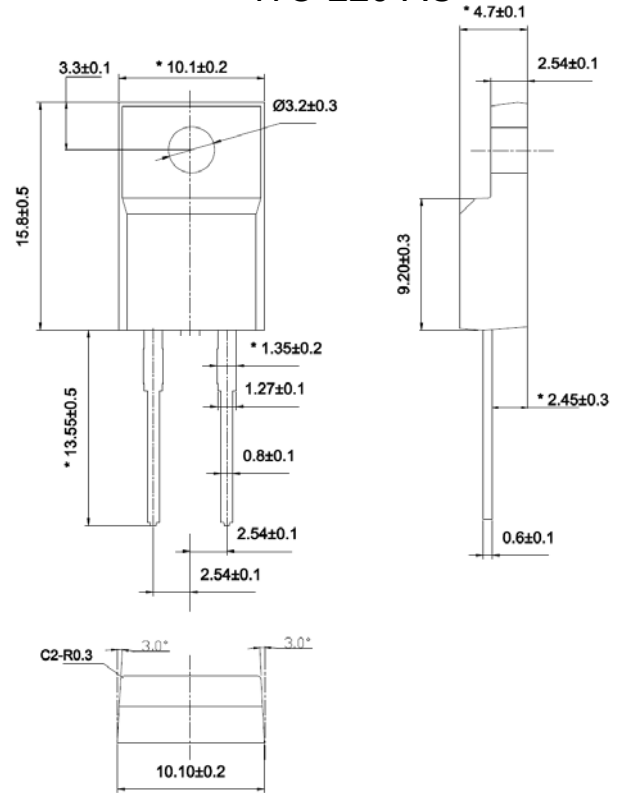
Package Outline Dimensions

Unit: millimeters

TO-220-AC



ITO-220-AC





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