



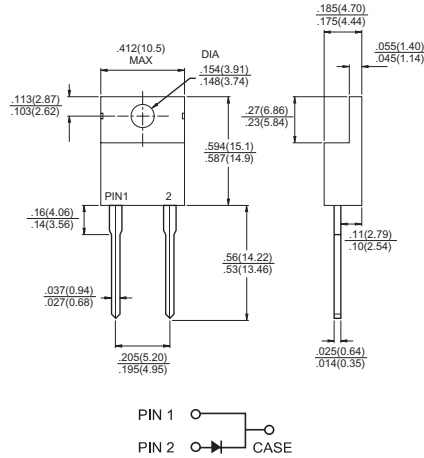
Features

- ✦ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✦ 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 overvoltage protection
- ✦ High temperature soldering guaranteed: 260°C/10 seconds, 0.25"(6.35mm) from case

Mechanical Data

- ✦ Cases: JEDEC TO-220A molded plastic body
- ✦ Terminals: Lead solderable per MIL-STD-750, Method 2026
- ✦ Polarity: As marked
- ✦ Mounting position: Any
- ✦ Mounting torque: 5 in. - lbs. max
- ✦ Weight: 0.08 ounce, 2.24 grams

TO-220A



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number	Symbol	MBR 1035	MBR 1045	MBR 1050	MBR 1060	MBR 1090	MBR 10150	MBR 10200	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	150	200	V	
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	105	140	V	
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	150	200	V	
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10							A	
Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_c=135^\circ\text{C}$	I_{FRM}	20.0							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A	
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0			0.5				A	
Voltage Rate of Change (Rated V_R)	dV/dt	10,000							V/ μs	
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=10\text{A}, T_c=25^\circ\text{C}$ $I_F=10\text{A}, T_c=125^\circ\text{C}$ $I_F=20\text{A}, T_c=25^\circ\text{C}$ $I_F=20\text{A}, T_c=125^\circ\text{C}$	V_F	0.70		0.80		0.85	1.05		V	
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2) @ $T_c=125^\circ\text{C}$	I_R		0.1			0.1	0.009		mA mA	
Typical Junction Capacitance (Note 3)	C_j	350		280		200			pF	
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.5			2.0				$^\circ\text{C}/\text{W}$	
Operating Junction Temperature Range	T_J	-65 to +150								$^\circ\text{C}$
Storage Temperature Range	TSTG	-65 to +175								$^\circ\text{C}$

Notes: 1. 2.0us Pulse Width, f=1.0 KHz
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Mounted on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.



RATINGS AND CHARACTERISTIC CURVES (MBR1035 THRU MBR10200)

FIG.1- FORWARD CURRENT DERATING CURVE

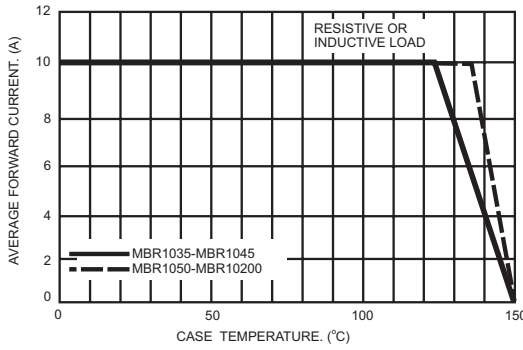


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

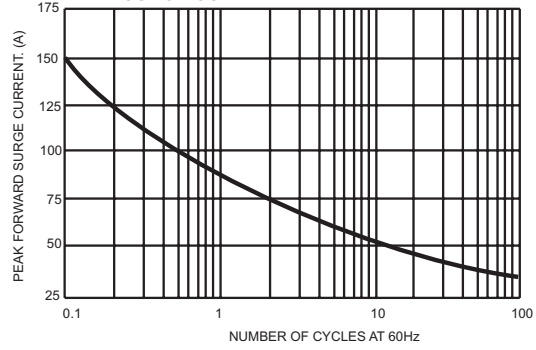


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

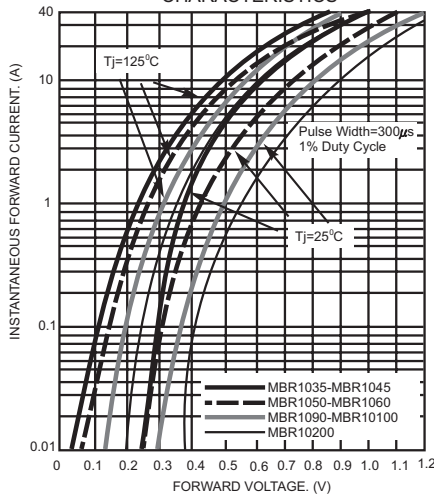


FIG.4- TYPICAL REVERSE CHARACTERISTICS

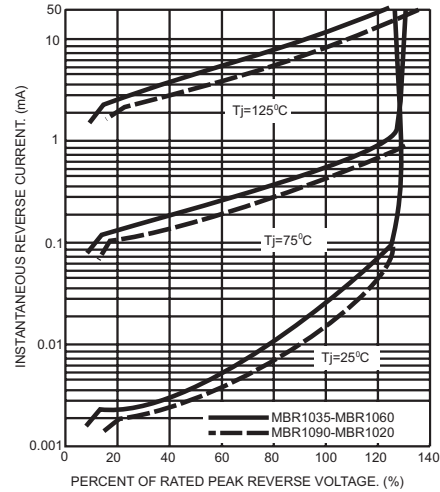


FIG.5- TYPICAL JUNCTION CAPACITANCE

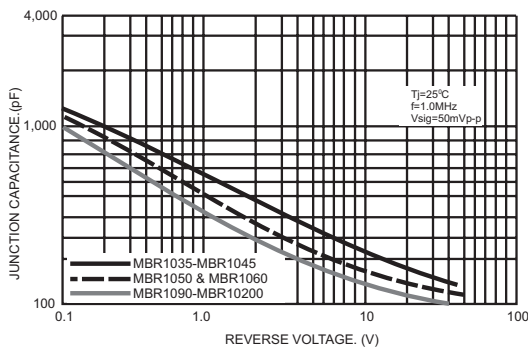


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

