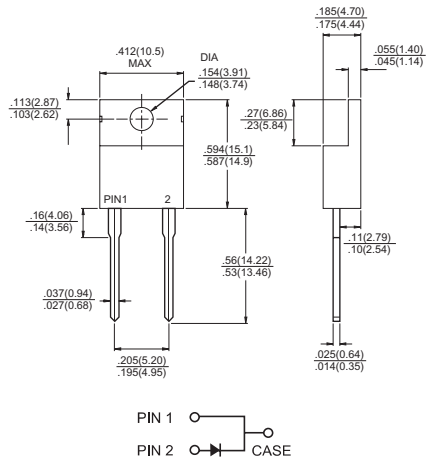
MBR1035 THRU MBR10200

10.0 AMPS. Schottky Barrier Rectifiers

Voltage Range
35 to 200 Volts
Current
10.0 Amperes

TO-220A



Dimensions in inches and (millimeters)

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

Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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 10100	MBR 10200	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	200	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	140	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	200	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10							A
Peak Repetitive Forward Current (Square Wave, 20KHz) at Tc=135°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/uS
Maximum Instantaneous Forward Voltage at (Note 2) I_F=10A, Tc=25°C I_F=10A, Tc=125°C I_F=20A, Tc=25°C I_F=20A, Tc=125°C	V_F	0.70 0.57 0.84 0.72		0.80 0.70 0.95 0.85		0.85 0.71 - -	1.05 - -		V
Maximum Instantaneous Reverse Current @ Tc =25℃ at Rated DC Blocking Voltage (Note 2) @ Tc=125℃	I_R	0.1 15.0				0.1 6.0	0.009 10		mA mA
Typical Junction Capacitance (Note 3)	Cj	350		280		200			**pF**
Maximum Thermal Resistance, Junction to Case	$R\theta_{JC}$	3.5				2.0			℃/W
Operating Junction Temperature Range	T_J	-65 to +150							℃
Storage Temperature Range	TSTG	-65 to +175							℃

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

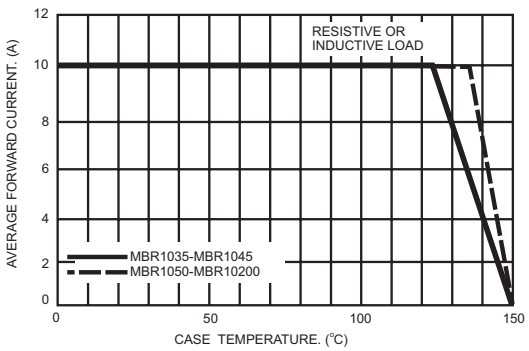


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

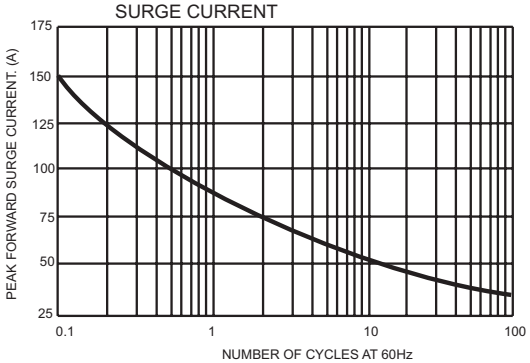


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

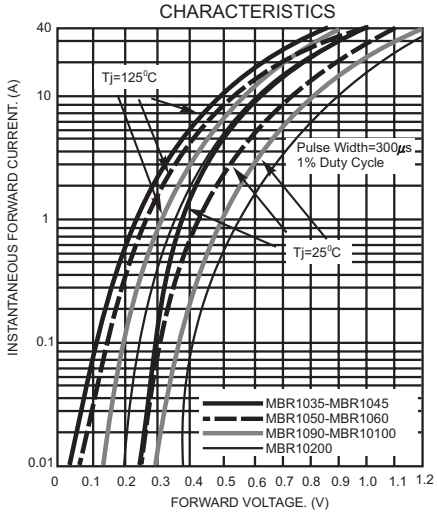


FIG.4- TYPICAL REVERSE CHARACTERISTICS

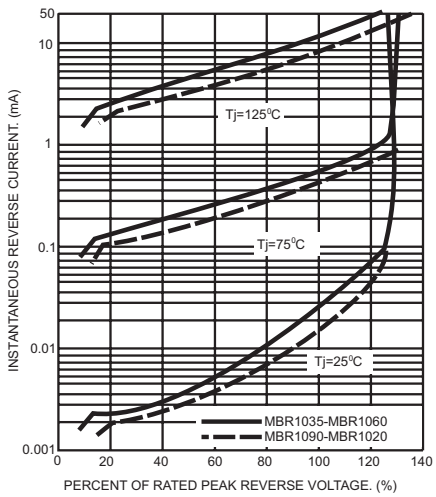


FIG.5- TYPICAL JUNCTION CAPACITANCE

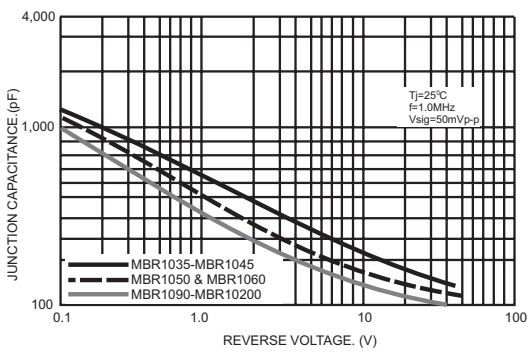


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC