



MBR1035 THRU MBR10H100

10.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
10.0 Amperes

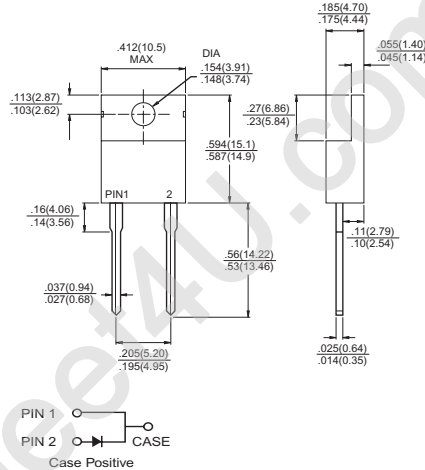
Features

- ✧ 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



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 10H90	MBR 10H100	Units		
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	V		
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	V		
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	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	0.57	0.84	0.72	0.80	0.71	0.85	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			0.0035			15.0	4.5	mA
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0						°C/W		
Operating Junction Temperature Range	T_J	-65 to +150						°C		
Storage Temperature Range	T_{STG}	-65 to +175						°C		

Notes: 1. 2.0 μs Pulse Width, $f=1.0$ KHz

2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle

RATINGS AND CHARACTERISTIC CURVES (MBR1035 THRU MBR10H100)

FIG.1- FORWARD CURRENT DERATING CURVE

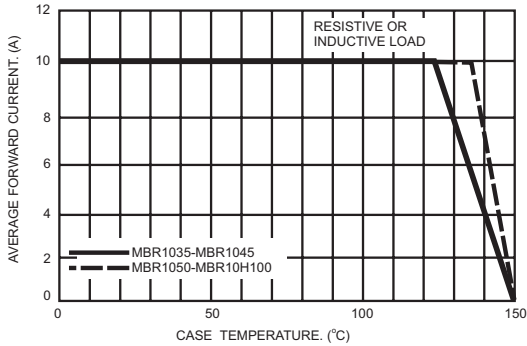


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

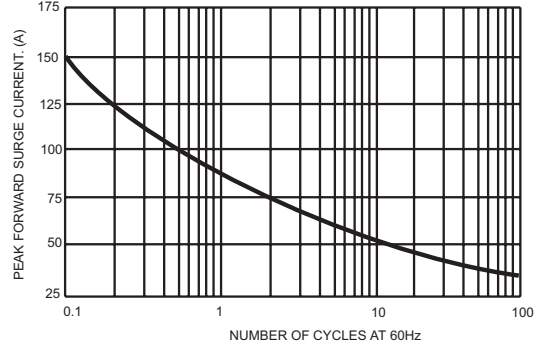


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

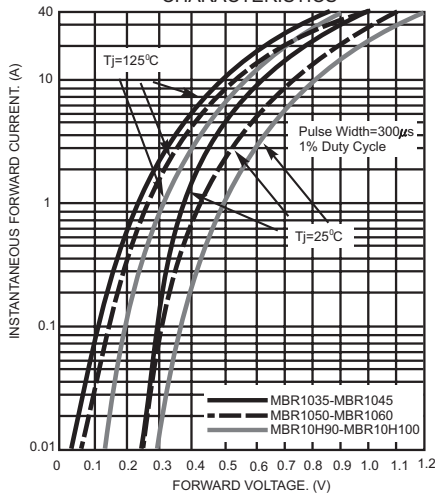


FIG.4- TYPICAL REVERSE CHARACTERISTICS

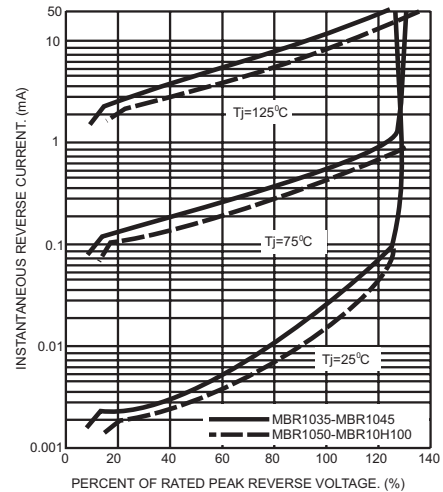


FIG.5- TYPICAL JUNCTION CAPACITANCE

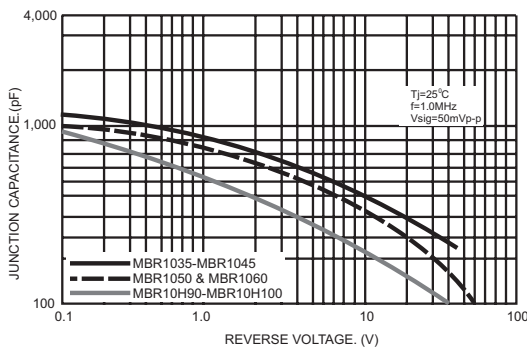


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

