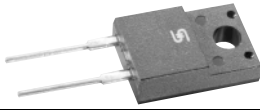




# MBRF1035 THRU MBRF1060

## Isolation 10.0 AMPS. Schottky Barrier Rectifiers

Preliminary



Voltage Range  
35 to 60 Volts  
Current  
10.0 Amperes

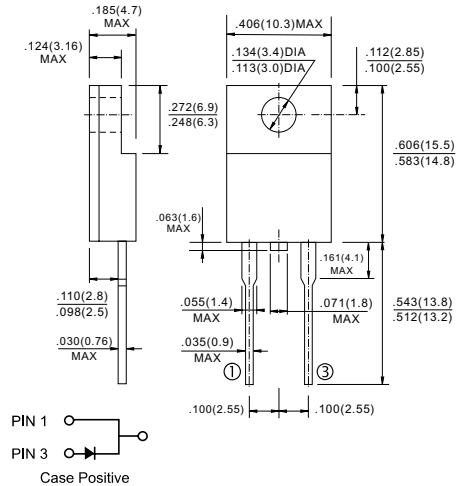
### Features

- ✧ 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
- ✧ Guarding for overvoltage protection
- ✧ High temperature soldering guaranteed: 250°C/10 seconds, 0.25"(6.35mm) from case

### Mechanical Data

- ✧ Cases: ITO-220AC 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

### ITO-220AC



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	MBRF1035	MBRF1045	MBRF1050	MBRF1060	Units
Maximum Recurrent Peak Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
Maximum DC Blocking Voltage	35	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	10				A
Peak Repetitive Forward Current (Square Wave, 20KHz) at Tc=135°C	20.0				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	150				A
Peak Repetitive Reverse Surge Current (Note 1)	1.0		0.5		A
Voltage Rate of Change (Rated V <sub>R</sub> )	10,000				V/μS
Maximum Instantaneous Forward Voltage at (Note 2) I <sub>F</sub> =10A, Tc=25°C I <sub>F</sub> =10A, Tc=125°C I <sub>F</sub> =20A, Tc=25°C I <sub>F</sub> =20A, Tc=125°C	-		0.80 0.70 0.95 0.85		V
Maximum Instantaneous Reverse Current @ Tc =25°C at Rated DC Blocking Voltage (Note 1) @ Tc=125°C	0.1 15.0				mA mA
Maximum Thermal Resistance, Junction to Case RθJC	4.0				°C /W
Operating Junction Temperature Range T <sub>J</sub>	-65 to +150				°C
Storage Temperature Range T <sub>STG</sub>	-65 to +175				°C

Notes: 1. 2.0us Pulse Width, f=1.0 KHz  
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle

## RATINGS AND CHARACTERISTIC CURVES (MBRF1035 THRU MBRF1060)

FIG.1- FORWARD CURRENT DERATING CURVE

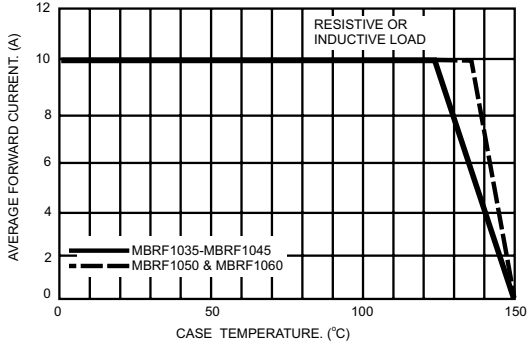


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

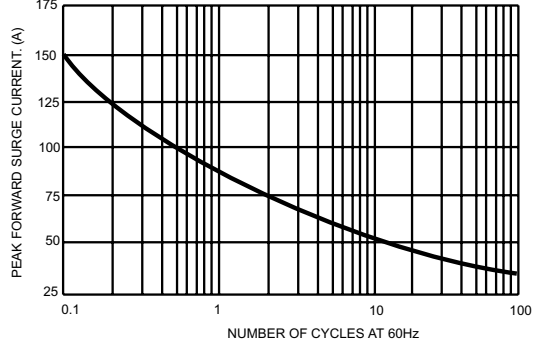


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

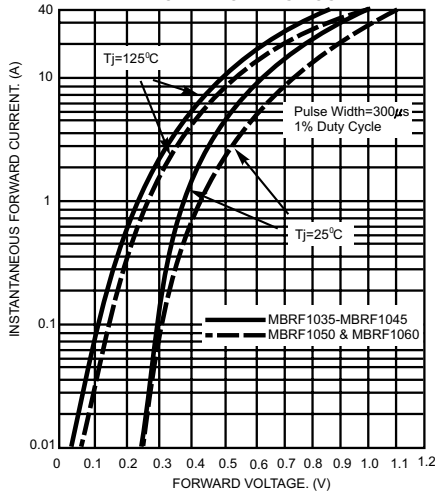


FIG.4- TYPICAL REVERSE CHARACTERISTICS

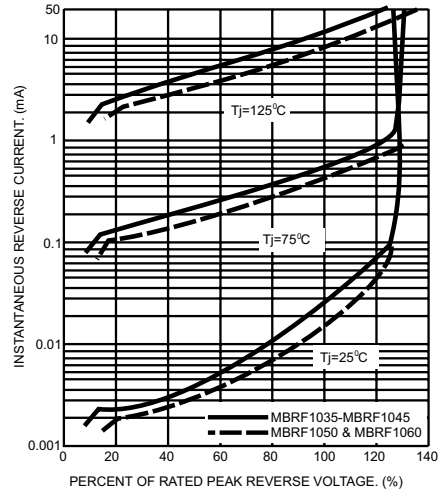


FIG.5- TYPICAL JUNCTION CAPACITANCE

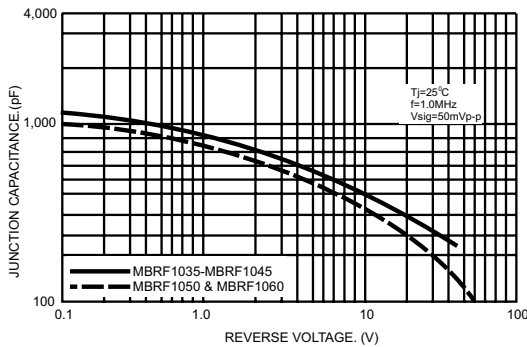


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE

