

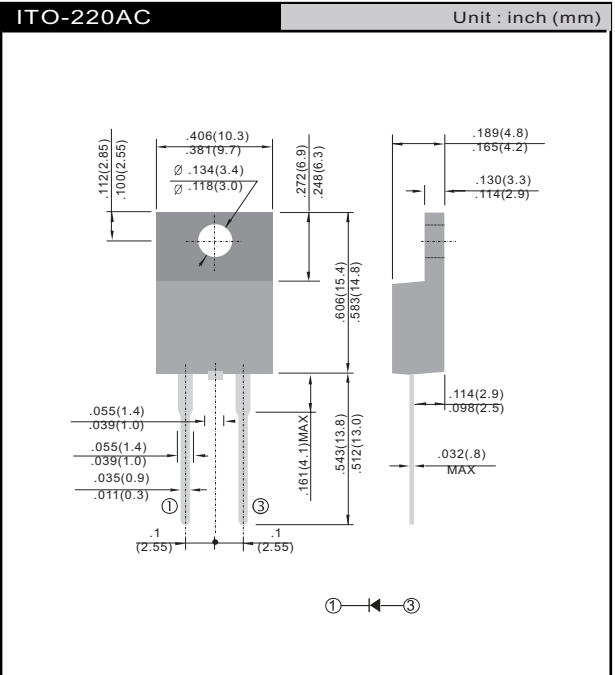
## Isolated 10.0 AMPS. Schottky Barrier Rectifiers

### 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 ITO-220AC molded plastic body
- ✧ Terminals: Pure tin plated, lead free. 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°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 1060	MBR 1090	MBR 10100	MBR 10150	MBR 102 00	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	60	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	24	31	42	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	60	90	100	150	200	V
Maximum Average Forward Rectified Current at $T_c=125^\circ C$	$I_{(AV)}$	10							A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=125^\circ C$	$I_{FRM}$	32							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
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F=10A, T_c=25^\circ C$ $I_F=10A, T_c=125^\circ C$ $I_F=20A, T_c=25^\circ C$ $I_F=20A, T_c=125^\circ C$	$V_F$	0.70		0.80		0.85		0.95	V
		0.57		0.70		0.71		—	
		0.84		0.95		—		—	
		0.72		0.85		—		—	
Maximum Instantaneous Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage @ $T_c=125^\circ C$ (Note 2)	$I_R$	0.1			0.1				mA
		15			6.0				mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000							V/ $\mu$ S
Typical Junction Capacitance	$C_j$	500							pF
Maximum Typical Thermal Resistance(Note 3)	$R_{\theta JC}$	3.0							$^\circ C/W$
Operating Junction Temperature Range	$T_J$	-65 to +150							$^\circ C$
Storage Temperature Range	TSTG	-65 to +175							$^\circ C$

Notes: 1. 2.0us Pulse Width, f=1.0 KHz  
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle  
 3. Thermal Resistance from Junction to Case Per Leg with Heatsink Size of 2 in x 3 in x 0.25 in Al-Plate.

RoHS compliant

## RATINGS AND CHARACTERISTIC CURVES (MBRF1035 THRU MBRF10200)

FIG.1- FORWARD CURRENT DERATING CURVE

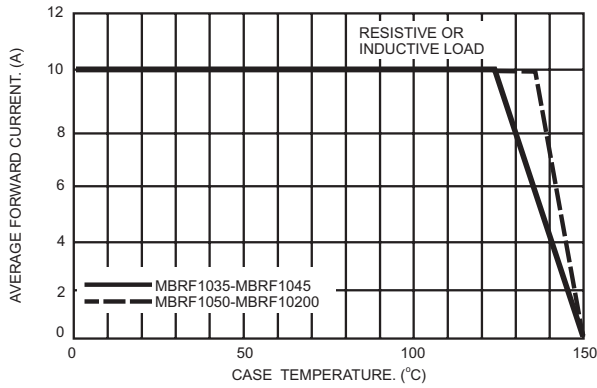


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

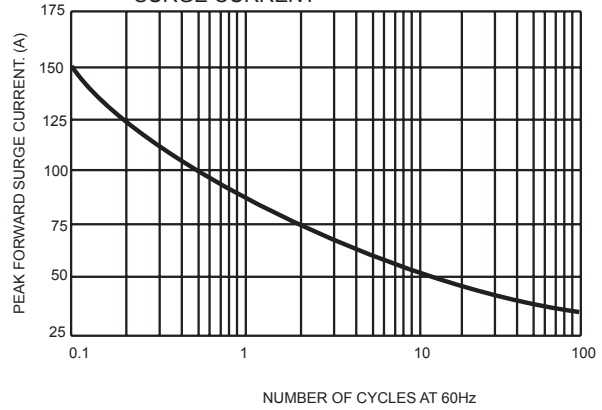


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

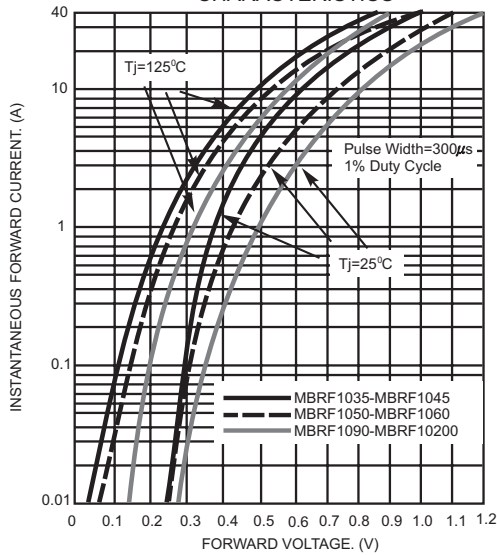


FIG.4- TYPICAL REVERSE CHARACTERISTICS

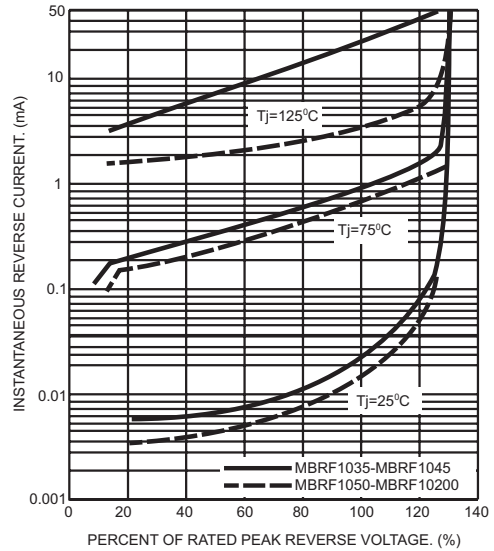


FIG.5- TYPICAL JUNCTION CAPACITANCE

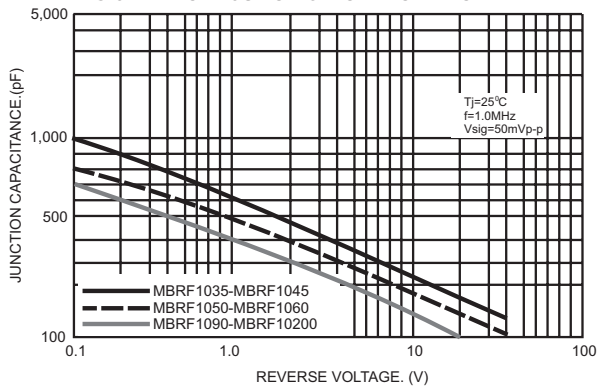


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

