

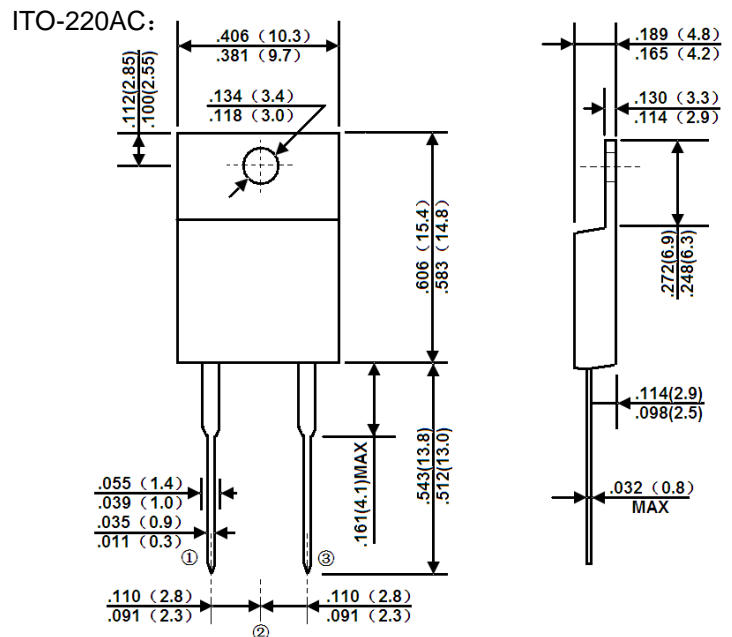
### Features

- \* Low power loss, high efficiency
- \* Guard-ring for overvoltage protection
- \* High surge current capability
- \* Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT

### Package Outline Dimensions in inches (millimeters)



### Mechanical Data

- \* Case: ITO-220AC
- \* Molding compound, UL flammability classification rating 94V-0
- \* Terminal: Matte tin plated leads, solderable per JESD 22-B102 Meet JESD 201 class 1A whisker test
- \* Polarity: As marked
- \* Mounting torque: 5 in-lbs maximum

### 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	MBRF 1635	MBRF 1645	MBRF 1650	MBRF 1660	MBRF 1690	MBRF 16100	MBRF 16150	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	150	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	105	V
Maximum D.C Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	16							A
Peak repetitive forward current (Rated VR, square wave, 20KHz)	$I_{FRM}$	32							A
Peak Forward Surge Current, 8.3ms 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 (Note 2)	$V_F$	IF=16A, T <sub>J</sub> =25°C 0.63 IF=16A, T <sub>J</sub> =125°C 0.57		0.75 0.65		0.85 0.75		0.95 0.92	V
Maximum reverse current @ Rated VR	$I_R$	T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C			0.5		0.3	0.1	mA
		15		10		7.5	5		
Voltage rate of change (Rated VR)	dV/dt	10000							V/μs
Typical Thermal Resistance	$R_{θJC}$	3							°C/W
Operating junction temperature range	$T_J$	-55 to +150							°C
Storage Temperature Range	$T_{STG}$	-55 to +150							°C

Note:1、tp = 2.0 μs, 1.0KHz 2、Pulse test with PW=300μs, 1% duty cycle

### Ratings and Characteristic Curves

FIG.1 FORWARD CURRENT DERATING CURVE

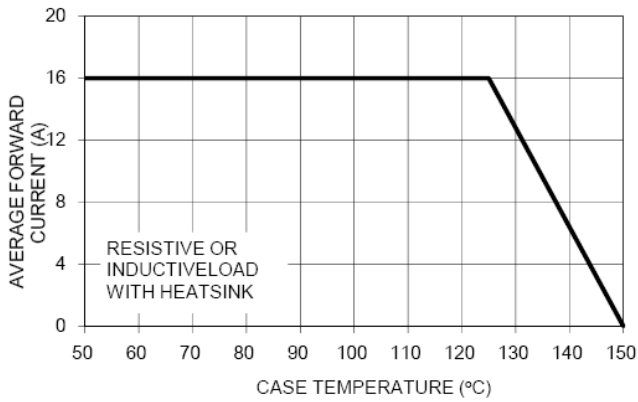


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

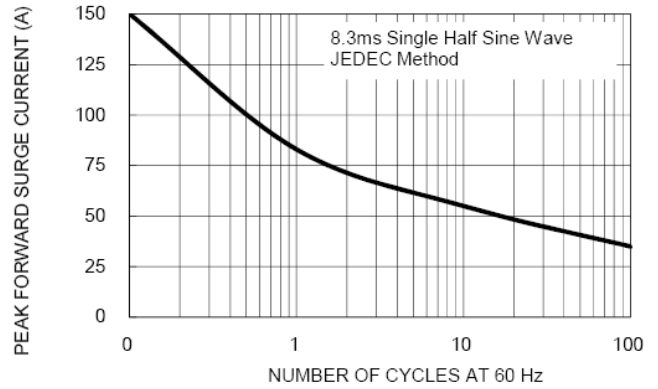


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

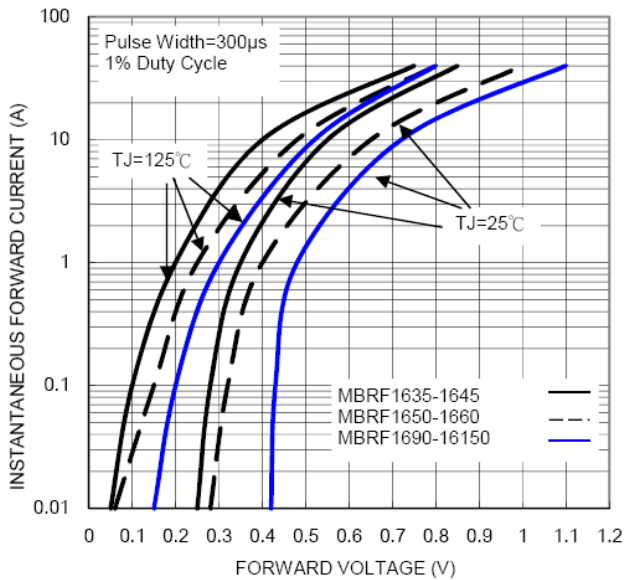


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

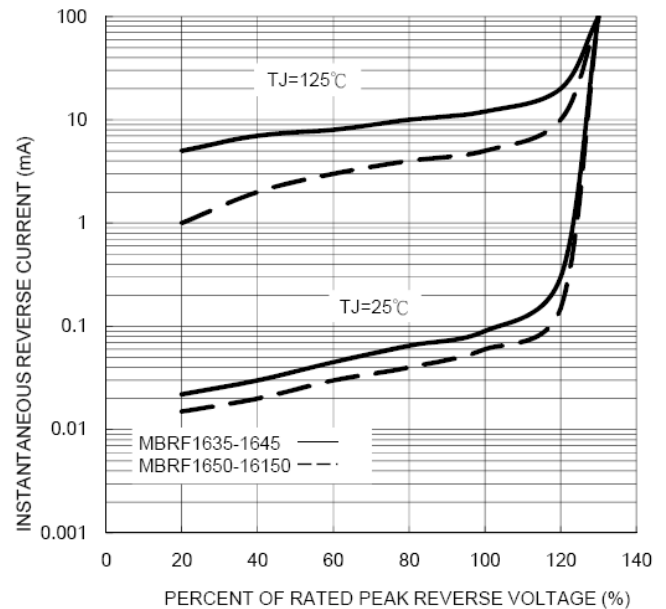


FIG. 5 TYPICAL JUNCTION CAPACITANCE

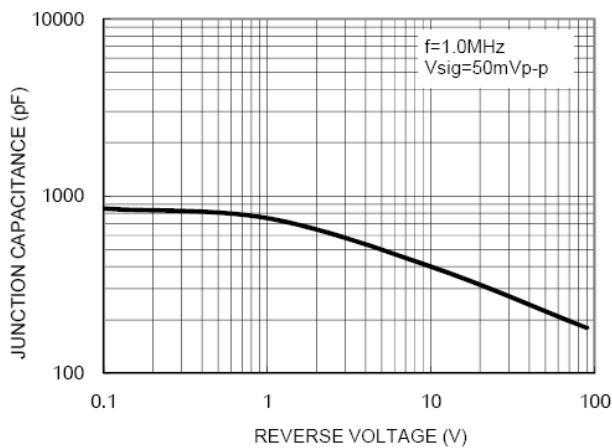
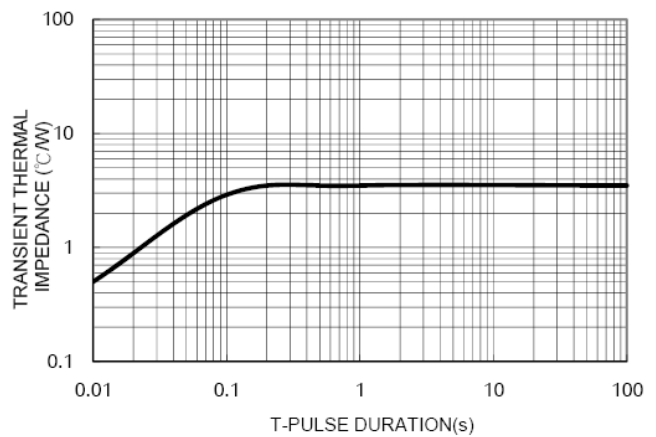


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE





# MBRF1635 THRU MBRF16150

*Isolated Schottky Barrier Rectifiers*

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## Ordering Information

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Part No.	Package	Packing
MBRF1635~MBRF16150	ITO-220AC	50pcs/Tube