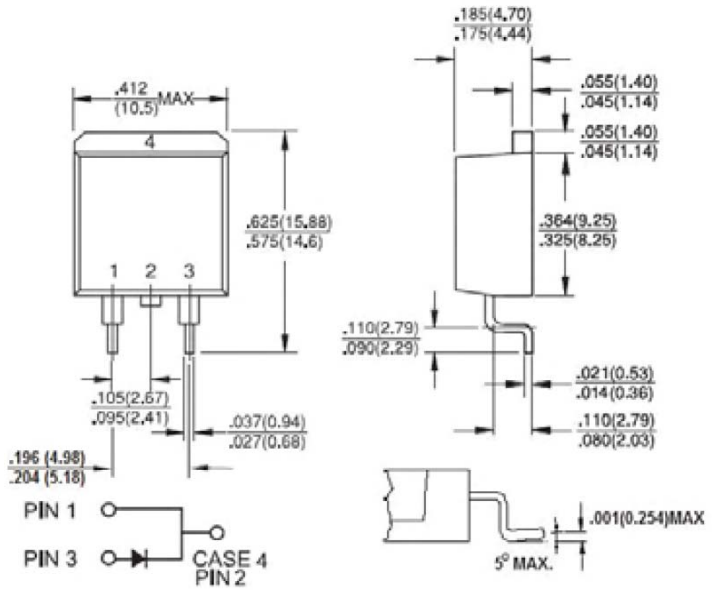



**Features**

- ✧ UL Recognized File # E-326854
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Metal silicon junction, majority carrier conductor
- ✧ 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
- ✧ Guard-ring for transient protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25"(6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode


**Mechanical Data**

- ✧ Case: JEDEC D<sup>2</sup>PAK 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: 1.37 grams

**Dimensions in inches and (millimeters)**

**Marking Diagram**

- MBRS16XX = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

**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	MBRS 1635	MBRS 1645	MBRS 1650	MBRS 1660	MBRS 1690	MBRS 16100	MBRS 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 DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current at $T_C=125^\circ C$	$I_{F(AV)}$	16							A
Peak Repetitive Forward Current (Rated VR, 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	0.5					A	
Maximum Instantaneous Forward Voltage (Note 2) $I_F=16A, T_A=25^\circ C$ $I_F=16A, T_A=125^\circ C$	$V_F$	0.63 0.57	0.75 0.65	0.85 0.82		0.95 0.92	V		
Maximum Reverse Current @ Rated VR $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$	0.5 15			0.3 10		0.1 7.5	5	mA
Typical Thermal Resistance	$R_{\theta JC}$	1.5							$^\circ C/W$
Operating Temperature Range	$T_J$	- 65 to + 150							$^\circ C$
Storage Temperature Range	$T_{STG}$	- 65 to + 175							$^\circ C$

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

## RATINGS AND CHARACTERISTIC CURVES (MBSR1635 THRU MBSR16150)

FIG.1 FORWARD CURRENT DERATING CURVE

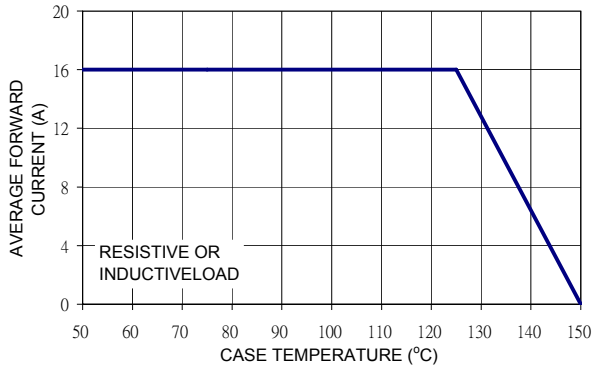


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

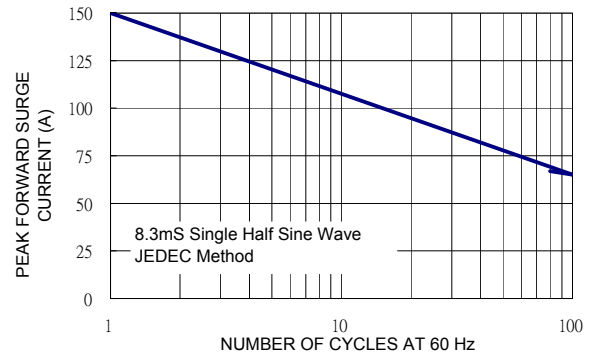


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

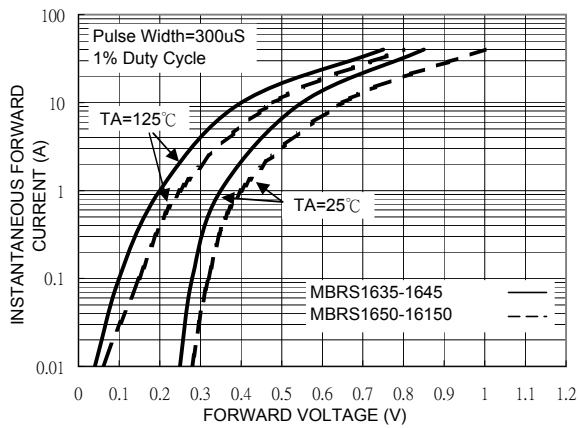


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

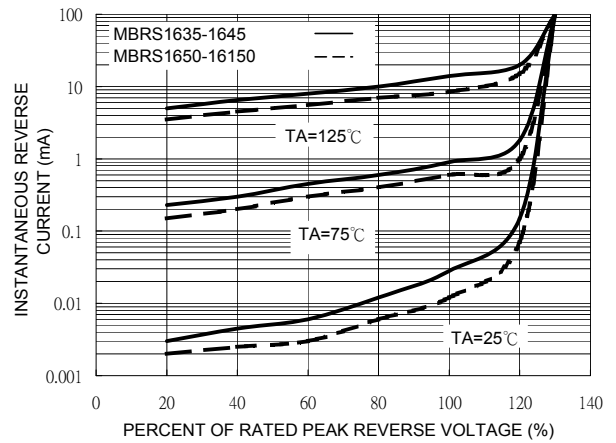


FIG. 5 TYPICAL JUNCTION CAPACITANCE

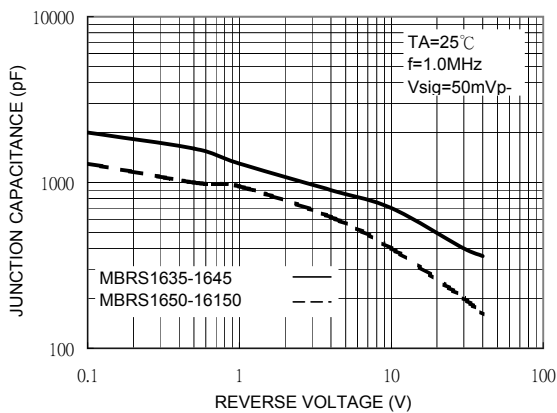


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

