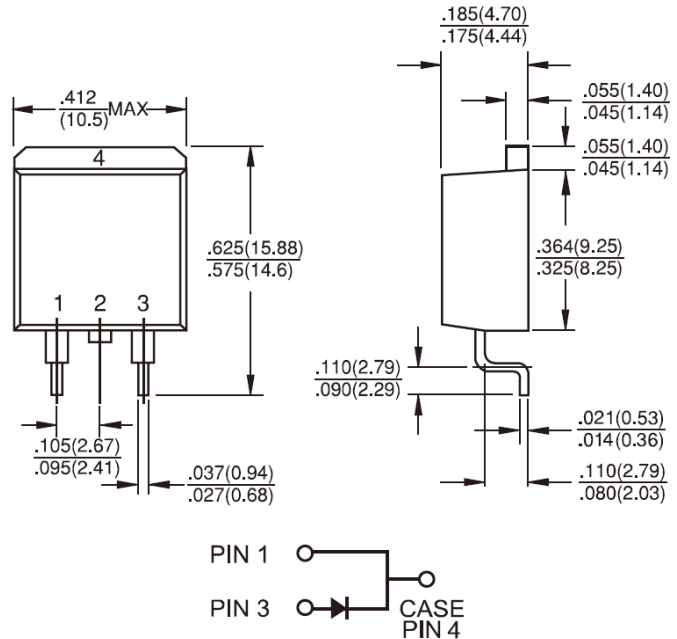



**Features**

- ✧ 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 overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.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**


- MBRS10XX = 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 1035	MBRS 1045	MBRS 1050	MBRS 1060	MBRS 1090	MBRS 10100	MBRS 10150	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	$I_{F(AV)}$	10							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	120							A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1		0.5				A	
Maximum Instantaneous Forward Voltage (Note 2) IF=5A, TA=25°C	$V_F$	--	0.80		0.85		1.05		V
IF=5A, TA=125°C		0.57	0.70		0.71		--		
IF=10A, TA=25°C		0.84	0.95		--		--		
IF=10A, TA=125°C		0.72	0.85		--		--		
Maximum Reverse Current @ Rated VR TA=25°C TA=100°C TA=125°C	$I_R$	0.1		-		5		mA	
		15		10					
		-							
Typical Junction Capacitance	$C_j$	390		300		220		pF	
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$	60 2							°C/W
Operating Temperature Range	$T_J$	- 65 to + 175							°C
Storage Temperature Range	$T_{STG}$	- 65 to + 175							°C

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

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

## RATINGS AND CHARACTERISTIC CURVES (MBRS1035 THRU MBRS10150)

FIG. 1 FORWARD CURRENT DERATING CURVE

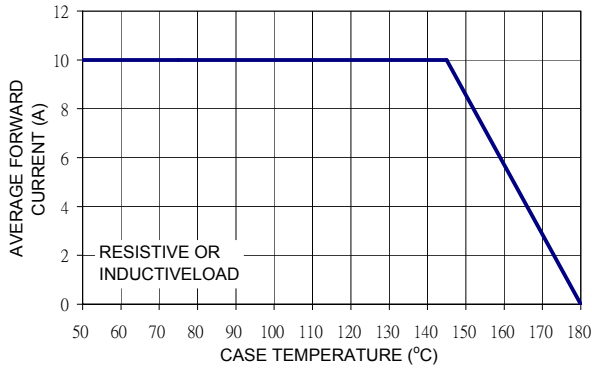


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

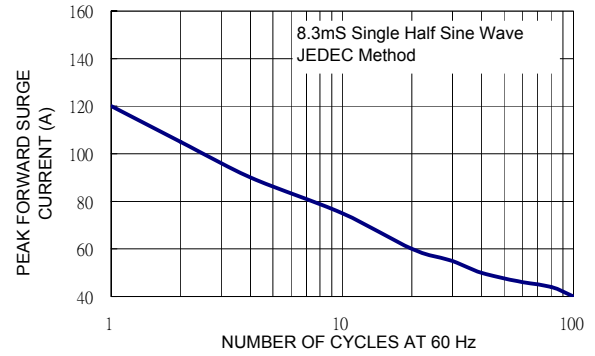


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

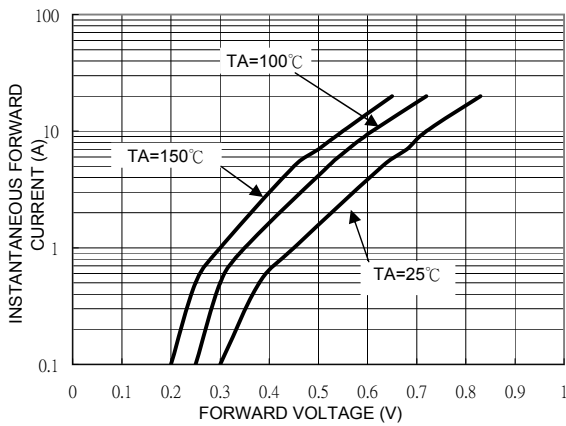


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

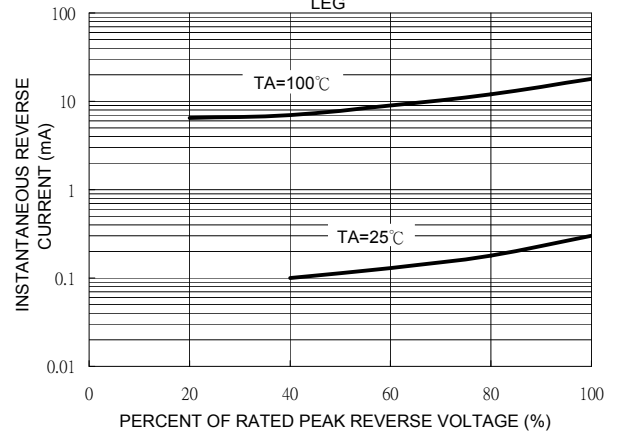


FIG. 5 TYPICAL JUNCTION CAPACITANCE

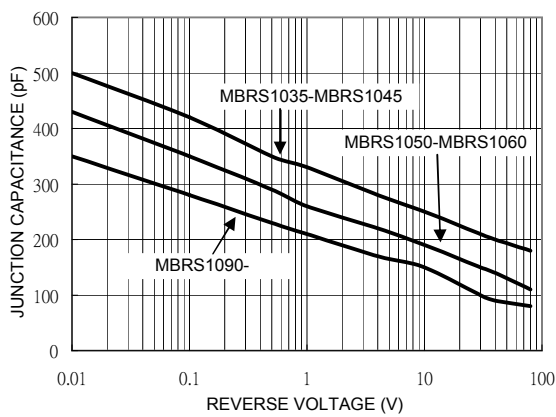


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

