

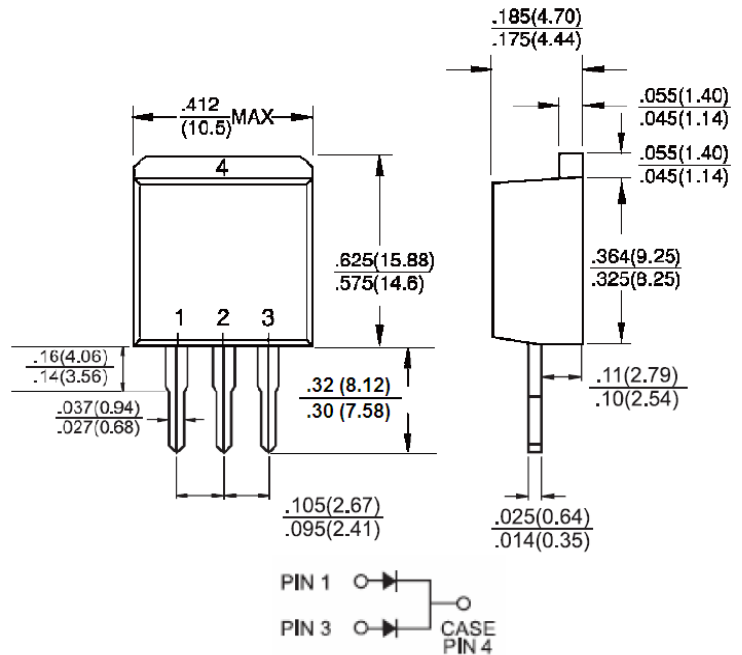


RoHS
COMPLIANCE



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 over voltage protection
- ✦ High temperature soldering guaranteed: 260 °C / 10 seconds at terminals
- ✦ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ✦ Case: JEDEC I²PAK molded plastic
- ✦ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ✦ Polarity: As marked
- ✦ Mounting position: Any
- ✦ Weight: 1.41 grams

Dimensions in inches and (millimeters)

Marking Diagram



- MBRI30100CT = 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	MBRI30100CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC blocking voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current @Tc = 130°C (Total Device)	$I_{(AV)}$	30	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200	A
Maximum Instantaneous Forward Voltage at IF = 15A, Ta=25°C IF = 15A, Ta=125°C IF = 30A, Ta=25°C IF = 30A, Ta=125°C	V_F	0.84 0.70 0.94 0.82	V
Maximum Reverse Current (Note 1) Ta=25 °C Ta=125 °C	I_R	0.2 7.5	mA mA
Voltage rate of change (Rated V_R)	dV/dt	10,000	V/uS
Maximum Thermal Resistance Per Leg (Note 2)	$R_{\theta JC}$	1.5	°C/W
Operating Temperature Range	T_J	-65 to + 150	°C
Storage Temperature Range	T_{STG}	-65 to + 175	°C

Note1: Pulse Test : 300us Pulse Width, 1% Duty cycle

Note2: Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBRI30100CT)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

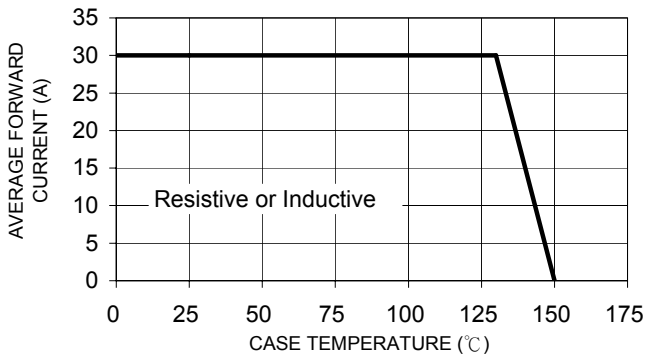


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

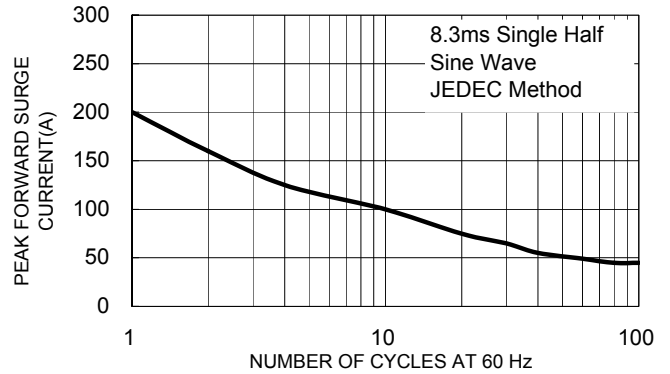


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

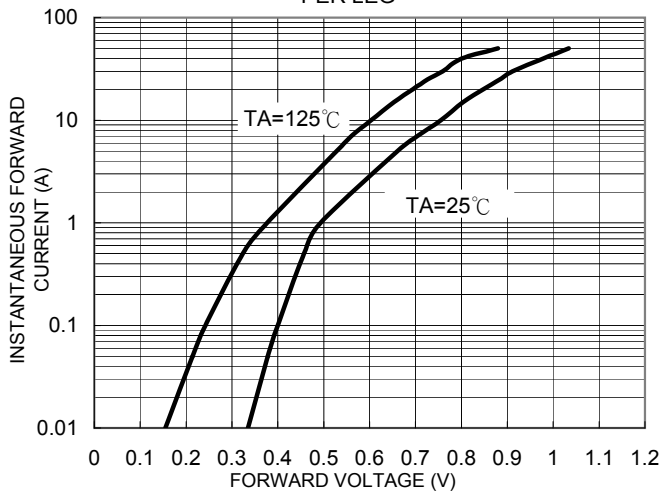


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

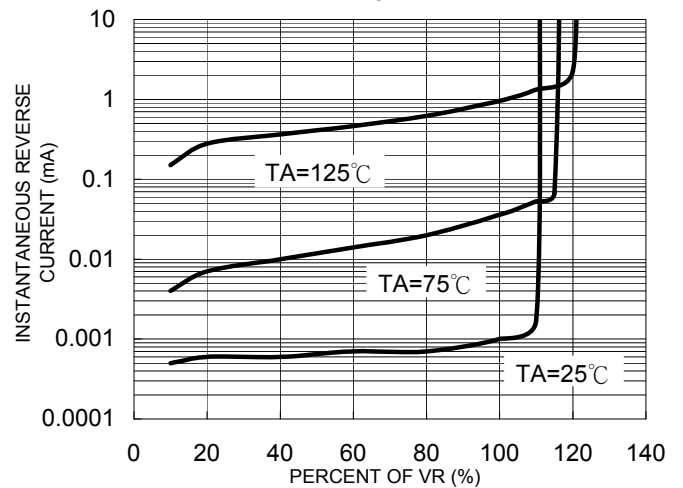


FIG. 5 TYPICAL JUNCTION CAPACITANCE

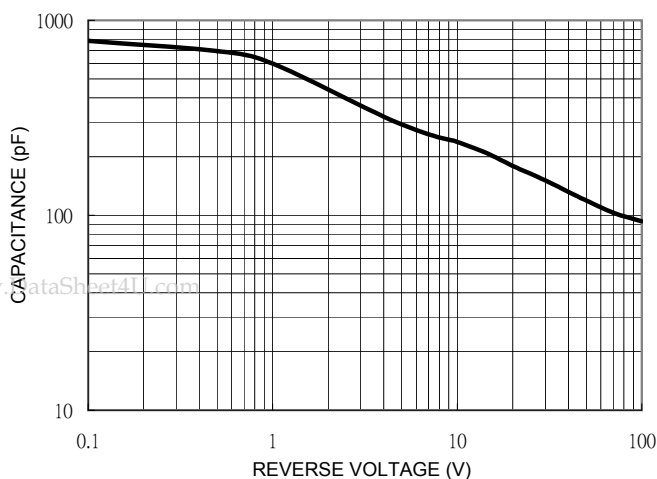


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

