

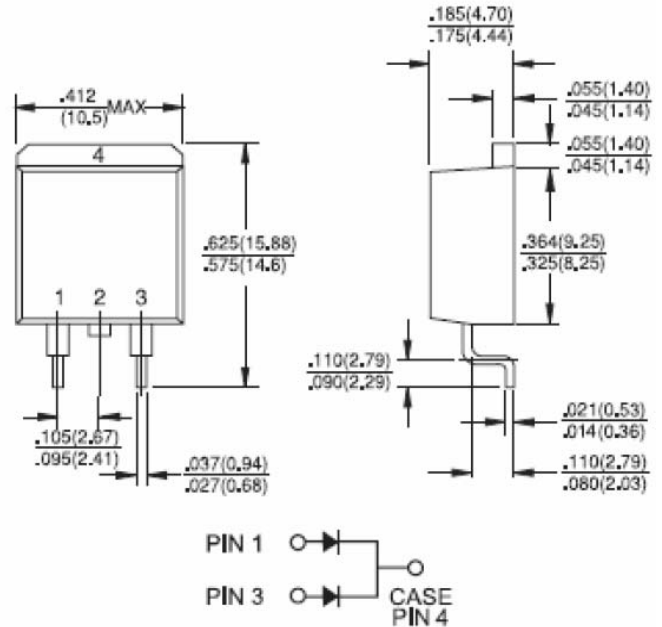


Features

- ◆ 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

Mechanical Data

- ◆ Case: JEDEC D²PAK 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



MBRS25H45CT = Specific Device Code
 G = Green Compound
 Y = Year
 WW = Work Week

Maximum Ratings and Electrical Characteristic

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	MBRS25H45CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Maximum RMS Voltage	V_{RMS}	31	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum Average Forward Rectified Current @T _c = 155 °C (Total Device)	$I_{(AV)}$	25	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150	A
Maximum Instantaneous Forward Voltage at (Note 1) IF = 12.5A, Ta=25 °C IF = 12.5A, Ta=125 °C IF = 25A, Ta=25 °C IF = 25A, Ta=125 °C	V_F	0.70 0.60 0.90 0.75	V
Maximum Reverse Current Ta=25 °C Ta=125 °C	I_R	0.2 15	mA mA
Voltage rate of change (Rated V_R)	dV/dt	10,000	V/uS
Maximum Thermal Resistance Per Leg (Note 2)	$R_{\theta JC}$ $R_{\theta JA}$	1.5 50	°C/W
Operating Temperature Range	T_J	-65 to + 175	°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 (MBRS25H45CT)

Fig.1 Maximum Forward Current Derating Curve

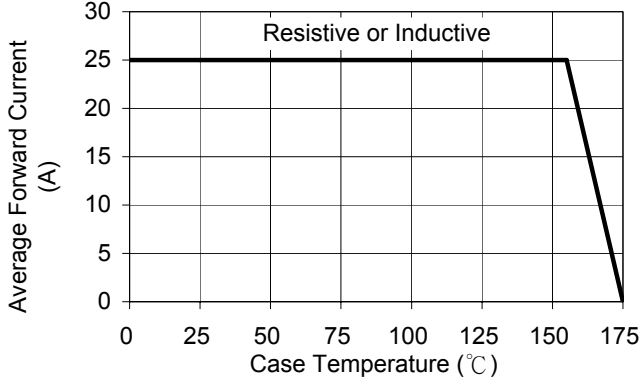


Fig. 2 Maximum Non-Repetitive Forward Surge Current Per Leg

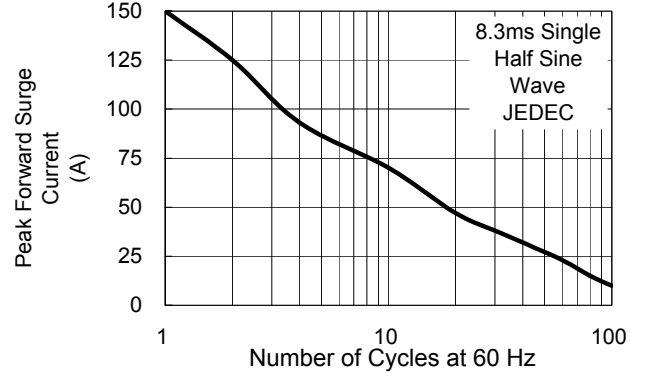


Fig. 3 Typical Forward Characteristics Per Leg

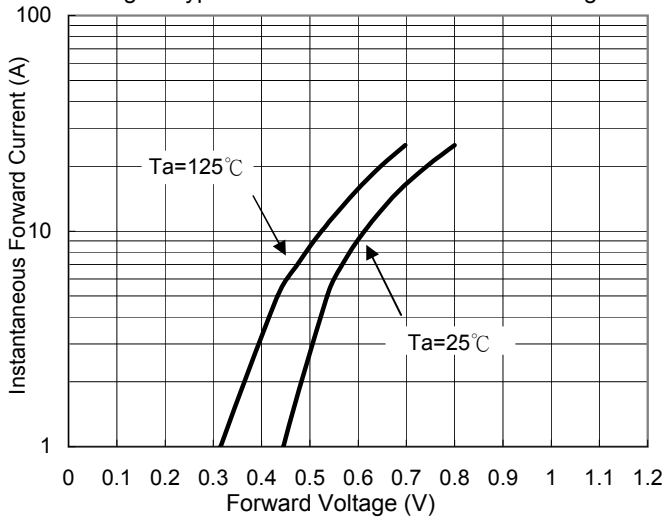


Fig. 4 Typical Reverse Characteristics Per Leg

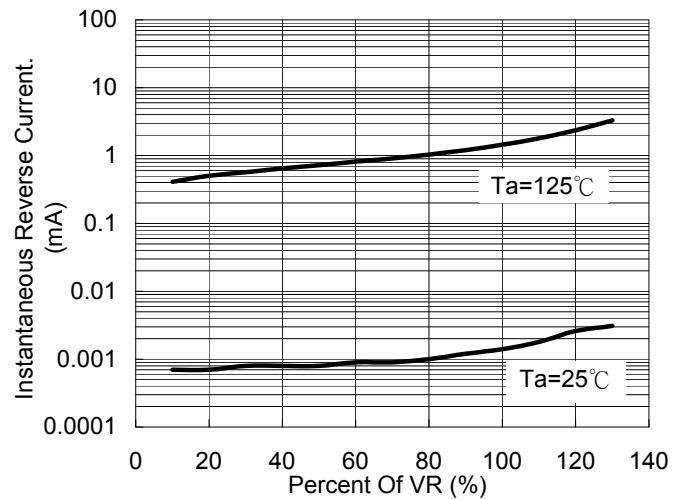


Fig. 5 Typical Transient Thermal Impedance Per Leg

