

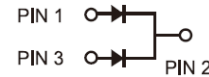
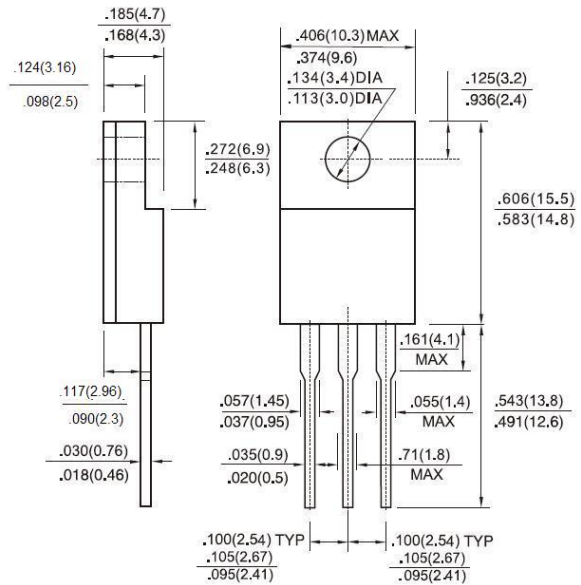


Features

- ✧ 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 overvoltage 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: ITO-220AB 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: 1.69 grams



Dimensions in inches and (millimeters)

Marking Diagram



- MBRF3080CT = 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	MBRF3080CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	80	V
Maximum RMS Voltage	V_{RMS}	56	V
Maximum DC blocking voltage	V_{DC}	80	V
Maximum Average Forward Rectified Current @ $T_c = 130^\circ C$ (Total Device)	$I_{F(AV)}$	30	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200	A
Peak Repetitive Reverse Surge Current	I_{RRM}	0.5	A
Maximum Instantaneous Forward Voltage at $I_F = 15A, T_A = 25^\circ C$ $I_F = 15A, T_A = 125^\circ C$ $I_F = 30A, T_A = 25^\circ C$ $I_F = 30A, T_A = 125^\circ C$	V_F	0.84 0.70 0.94 0.82	V
Maximum Reverse Current at Rated DC Blocking Voltage (Note 1) $T_a = 25^\circ C$ $T_a = 125^\circ C$	I_R	0.2 10	mA mA
Voltage rate of change (Rated V_R)	dV/dt	10,000	V/uS
Typical Junction Capacitance	C_j	360	pF
Maximum Thermal Resistance Per Leg (Note 2)	$R_{\theta JC}$	5	$^\circ C/W$
Operating Temperature Range	T_J	-65 to + 150	$^\circ C$
Storage Temperature Range	T_{STG}	-65 to + 175	$^\circ C$

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

Note2: Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBRF3080CT)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

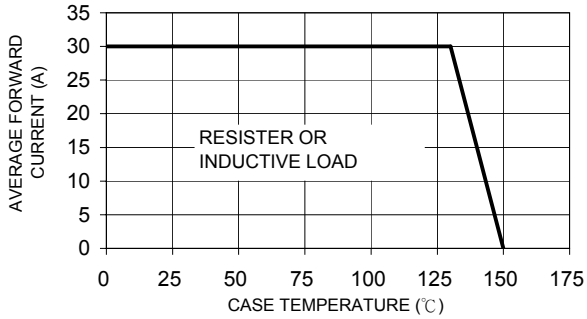


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

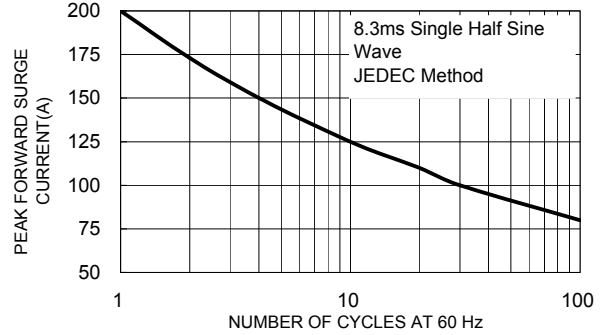


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

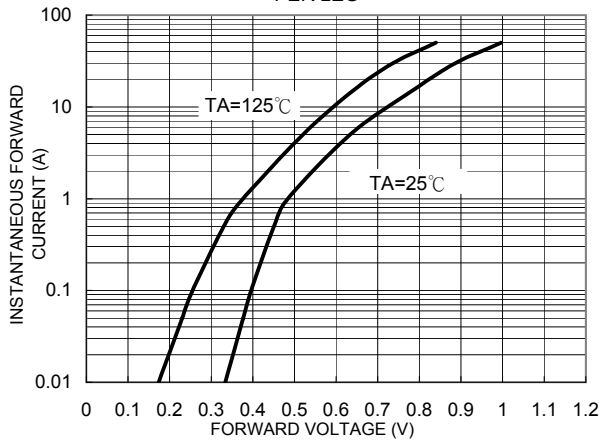


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

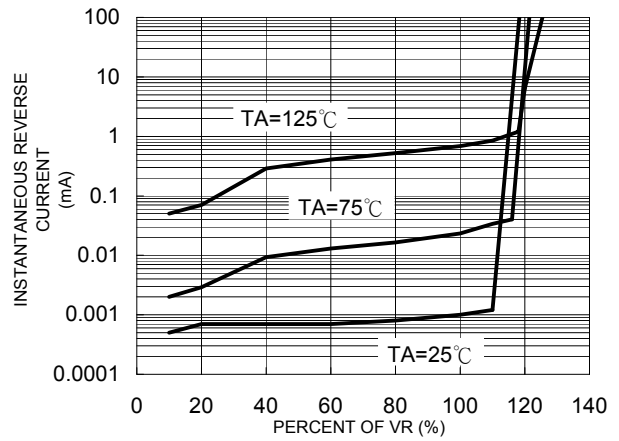


FIG. 5 TYPICAL JUNCTION CAPACITANCE

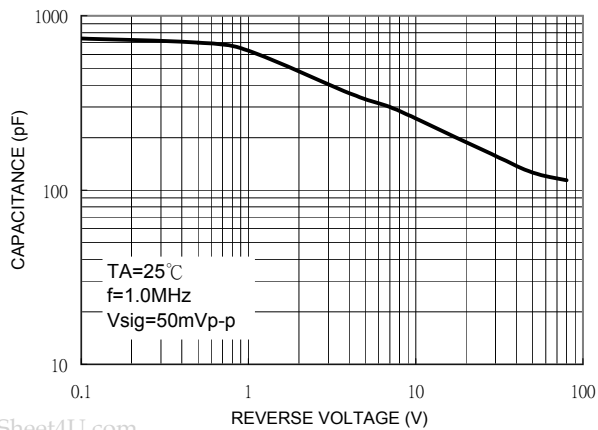


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

