



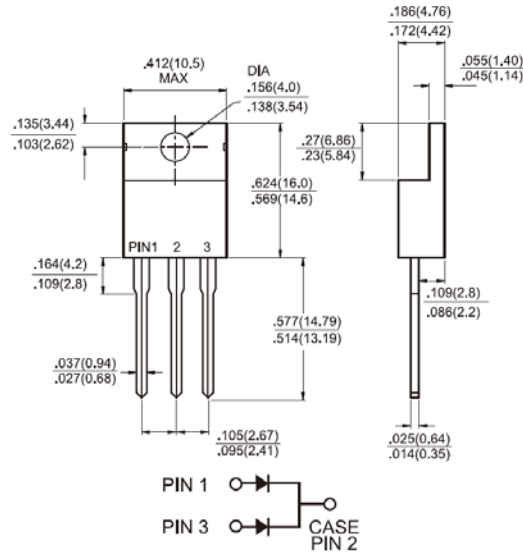
MBR3035CT - MBR30150CT

30.0AMPS. Schottky Barrier Rectifiers

TO-220AB

Features

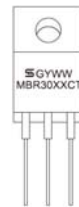
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage - high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guard-ring 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

- ✧ Cases: JEDEC TO-220AB molded plastic
- ✧ 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: 1.90 grams

Dimensions in inches and (millimeters)



Marking Diagram

- MBR30XXCT = 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	MBR 3035 CT	MBR 3045 CT	MBR 3050 CT	MBR 3060 CT	MBR 3090 CT	MBR 30100 CT	MBR 30150 CT	Units
Maximum Recurrent 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	$I_{F(AV)}$	30							A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz)	I_{FRM}	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 (Note 1)	I_{RRM}	1.0			0.5				A
Maximum Instantaneous Forward Voltage at (Note 2) IF=15A, $T_A=25^\circ C$ IF=15A, $T_A=125^\circ C$ IF=30A, $T_A=25^\circ C$ IF=30A, $T_A=125^\circ C$	V_F	0.7 0.6 0.82 0.73		0.77 0.67 - -		0.84 0.70 0.94 0.82		0.95 0.92 1.02 0.98	V
Maximum Instantaneous Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage Per Leg @ $T_A=125^\circ C$	I_R	0.2 15		0.2 10		0.2 7.5		0.1 5	mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/us
Typical Junction Capacitance @4V 1.0MHz	C_j	600		460		320			pF
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.0			1.5				$^\circ C/W$
Operating Junction 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 (MBR3035CT THRU MBR30150CT)

FIG. 1- FORWARD CURRENT DERATING CURVE

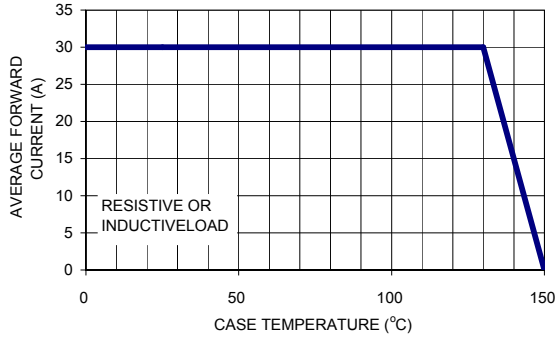


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

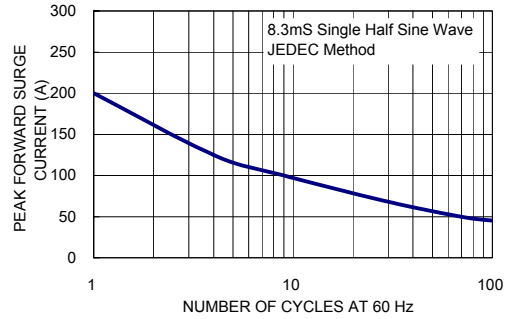


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

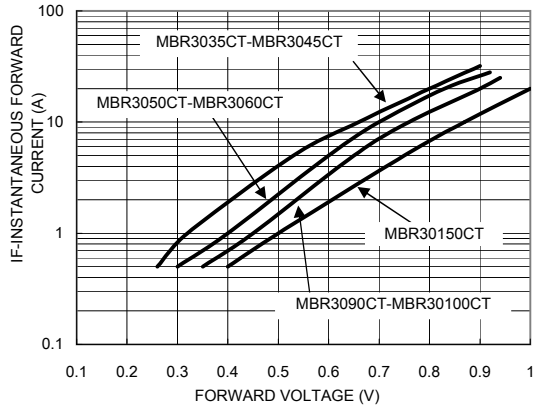


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

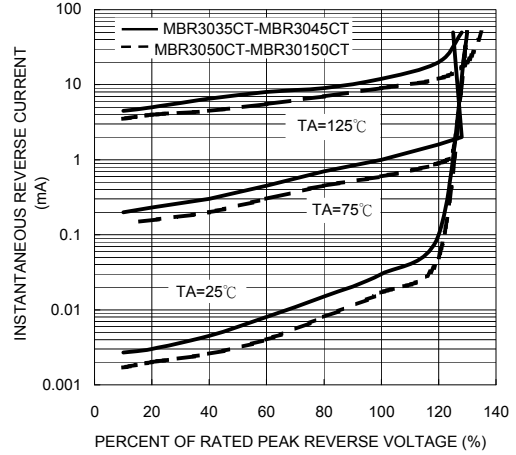


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

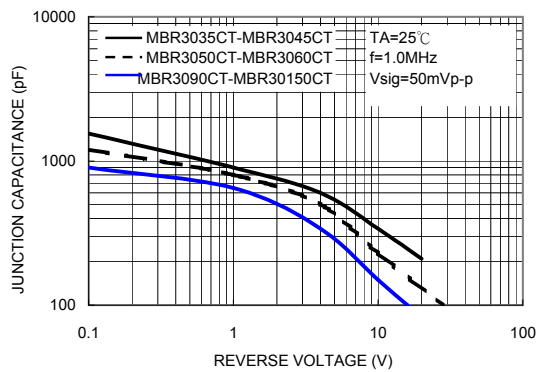


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

