

MBR3035CT - MBR30150CT 30.0 AMPS. Schottky Barrier Rectifiers

TO-220AB

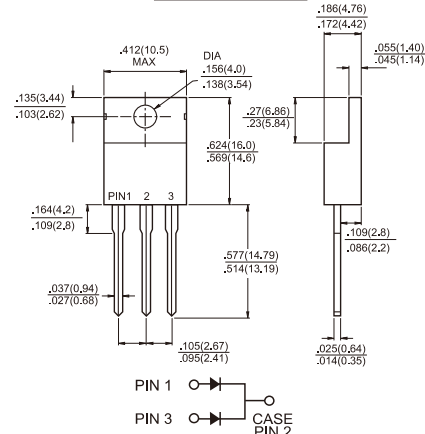


Features

- ◇ UL Recognized File # E-326243
- ◇ 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
- ◇ Guardring 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.

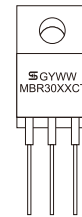
Mechanical Data

- ◇ 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: 1.90grams



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 at T _C =130°C	I _{F(AV)}	30							A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _C =130°C	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 2)	I _{RRM}	1.0			0.5				A
Maximum Instantaneous Forward Voltage at I _F =15A, T _A =25°C I _F =15A, T _A =125°C I _F =30A, T _A =25°C I _F =30A, T _A =125°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 at Rated DC Blocking Voltage Per Leg (Note 1) @ T _A =25 °C @ T _A =125 °C	I _R	0.2 15		0.2 10		0.2 7.5	0.1 5.0		mA mA
Voltage Rate of Change, (Rated V _R)	dV/dt	10,000							V/μs
Typical Junction Capacitance @4V 1.0 MHz	C _j	600		460			320		pF
Maximum Thermal Resistance Per Leg (Note 3)	R _{θJC}	1.0					1.5		°C/W
Operating Junction Temperature Range	T _J	-65 to +150							°C
Storage Temperature Range	T _{STG}	-65 to +175							°C

Notes: 1. Pulse Test: 300us Pulse Width, 1% Duty Cycle
2. 2.0us Pulse Width, f=1.0 KHz
3. Mount on Heatsink Size of (4"x6"x0.25") Al-Plate

Version: F10

RATINGS AND CHARACTERISTIC CURVES (MBR3035CT THRU MBR30150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

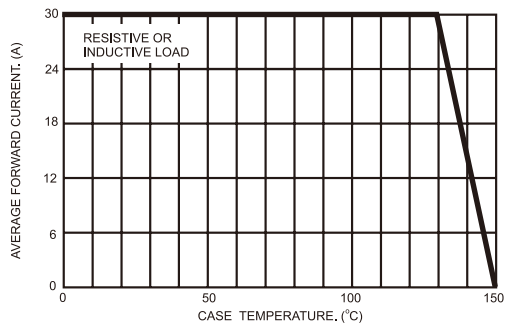


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

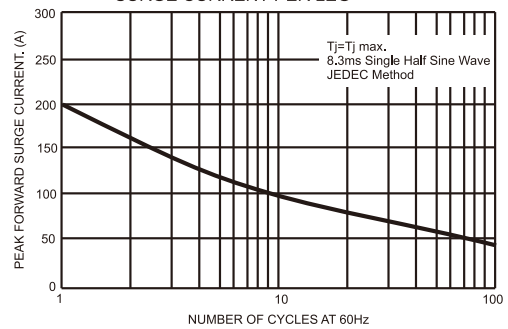


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

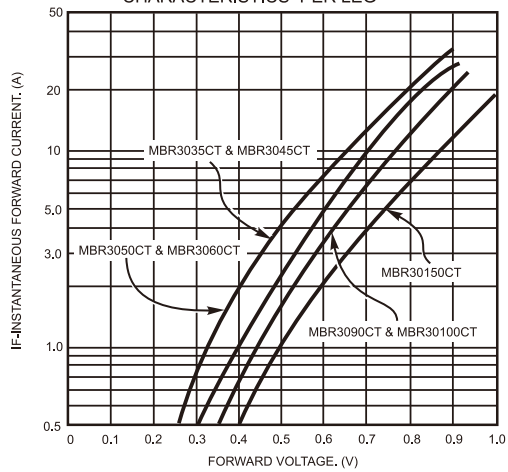


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

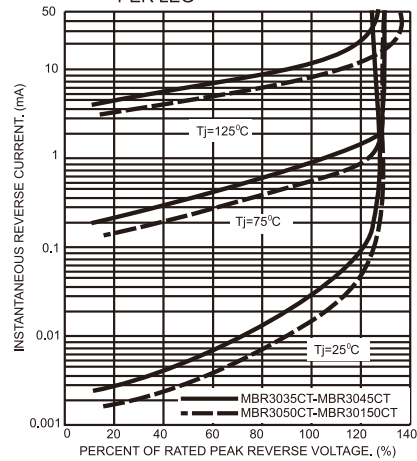


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

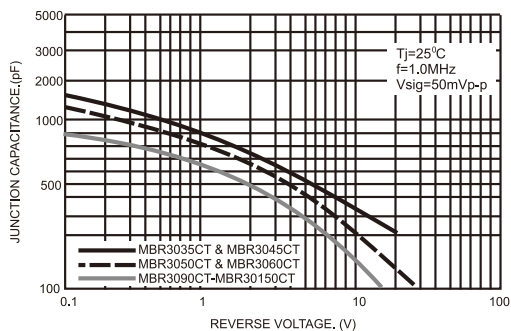


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

