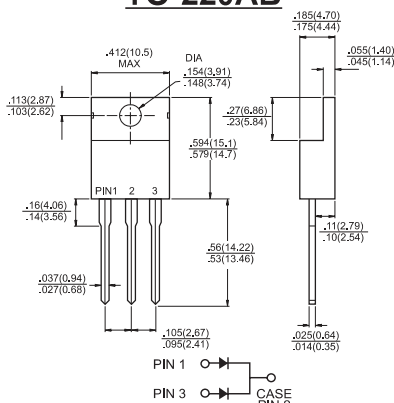




TO-220AB



Dimensions in inches and (millimeters)

Marking Diagram



MBR15XXCT = Specific Device Code
 G = Green Compound
 Y = Year
 WW = Work Week

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
- ◇ 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 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: 0.08 ounce, 2.24 grams

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 1535CT	MBR 1545CT	MBR 1550CT	MBR 1560CT	MBR 1590CT	MBR 15100CT	MBR 15150CT	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 =105°C	I <sub(av)< sub=""></sub(av)<>	15								A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _c =105°C	I _{FRM}	15								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150								A
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1.0			0.5					A
Maximum Instantaneous Forward Voltage at: (Note 2) I _F =7.5A, T _C =25°C I _F =7.5A, T _C =125°C I _F =15A, T _C =25°C I _F =15A, T _C =125°C	V _F	— 0.57 0.84 0.72		0.75 0.65 — —		0.92 0.82 — —		1.05 0.92 — —	V	
Maximum Instantaneous Reverse Current @ T _c =25 °C at Rated DC Blocking Voltage @ T _c =125 °C (Note 2)	I _R	0.5 10		0.3 7.5		0.1 5.0			mA mA	
Voltage Rate of Change (Rated V _R)	dV/dt	10,000								V/uS
Typical Junction Capacitance	C _j	400				200				pF
Maximum Typical Thermal Resistance (Note 3)	R _{θJA} R _{θJC}					10 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. 2.0us Pulse Width, f=1.0 KHz
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 3. Mount on Heatsink Size of 2" x 3" x 0.25" Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR1535CT THRU MBR15150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

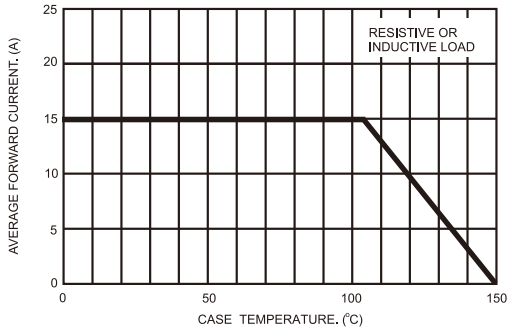


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

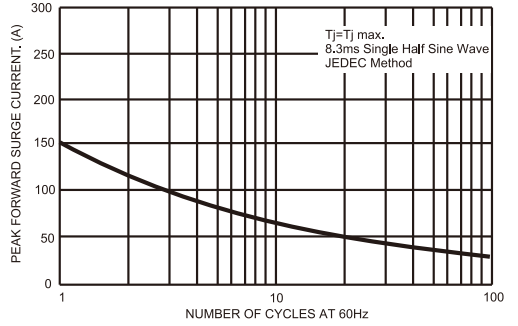


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

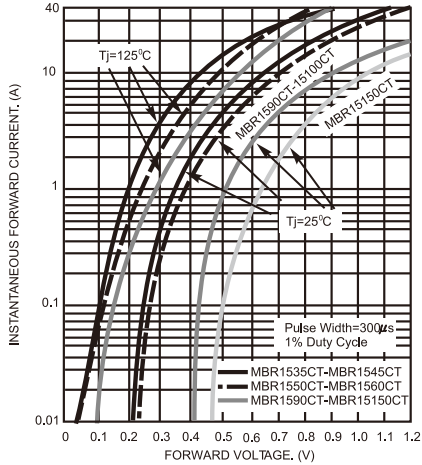


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

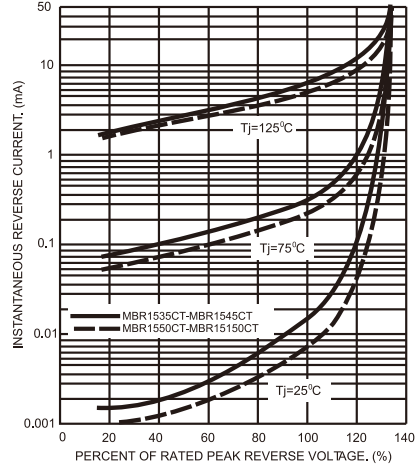


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

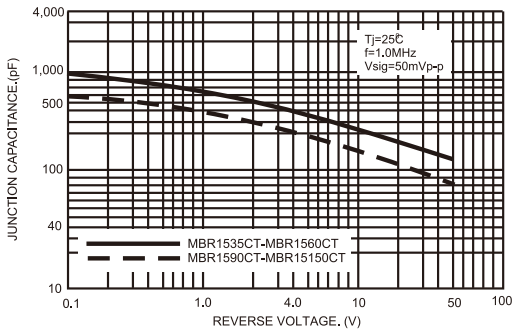


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

