MBR3035CT THRU MBR30100CT

30.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
30.0 Amperes

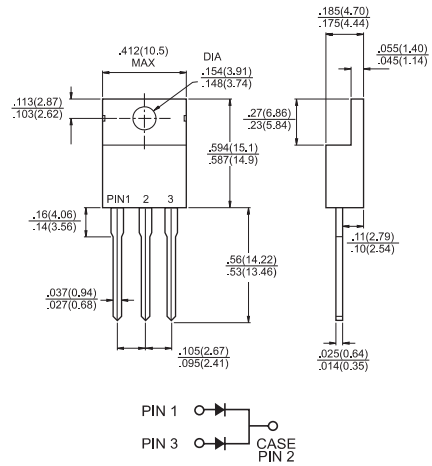
Features

- ✧ 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

Mechanical Data

- ✧ Cases: JEDEC TO-220 molded plastic
- ✧ Terminals: Leads 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

TO-220



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current at T_C=130°C	$I_{(AV)}$	30						A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20KHz) at Tc=130°C	I_{FRM}	30.0						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	250						A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0			0.5			A
Maximum Instantaneous Forward Voltage at (Note 2) I_F=15A, Tc=25°C I_F=15A, Tc=125°C I_F=30A, Tc=25°C I_F=30A, Tc=125°C	V_F	 0.7 0.6 0.82 0.73		 0.75 0.65 – –		 0.84 0.70 0.94 0.82		V
Maximum Instantaneous Reverse Current @ Tc=25℃ at Rated DC Blocking Voltage Per Leg @ Tc=125℃ (Note 2)	I_R	 0.2 40		 0.2 50		 0.2 60		 mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	1,000						V/uS
Maximum Thermal Resistance Per Leg (Note 3)	$R\theta_{JC}$	1.0				1.5		℃/W
Typical Junction Capacitance	Cj	600		460		320		pF
Operating Junction Temperature Range	T_J	-65 to +150						℃
Storage Temperature Range	TSTG	-65 to +175						℃

Notes: 1. 2.0us Pulse Width, f=1.0 KHz
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Thermal Resistance from Junction to Case Per Leg, with Heatsink size (4"x6"x0.25") Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR3035CT THRU MBR30100CT)

FIG.1- FORWARD CURRENT DERATING CURVE

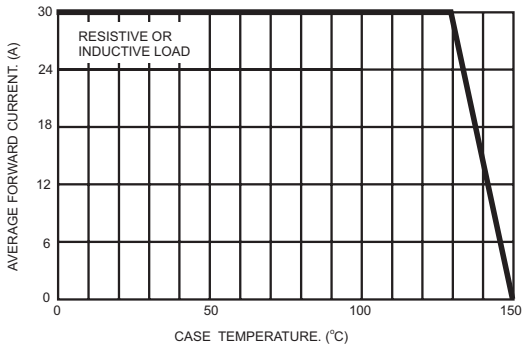


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

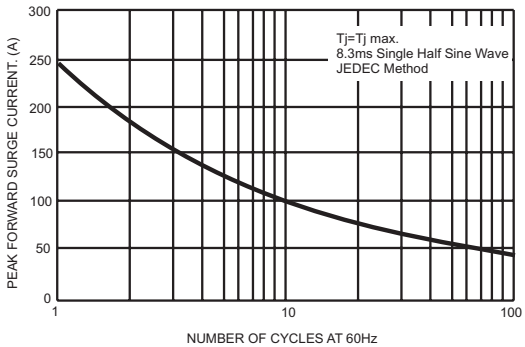


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

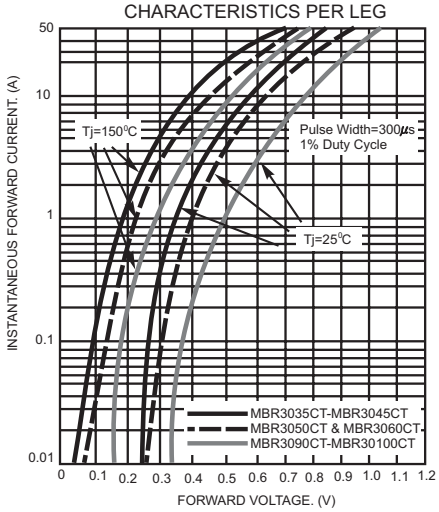


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

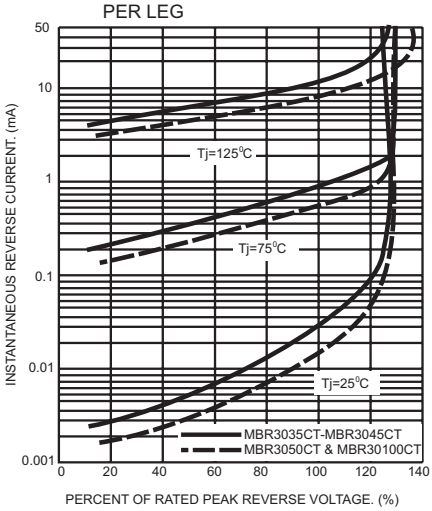


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

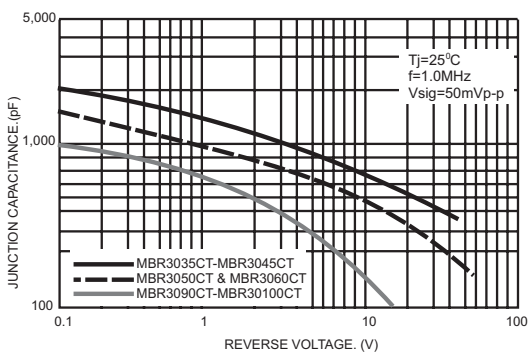


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

