



MBR3035CT THRU MBR30100CT

30.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
30.0 Amperes

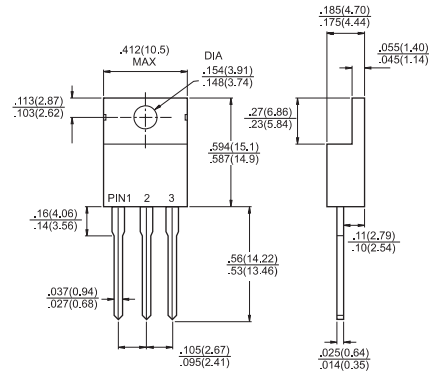
Features

- 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°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	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 T _C =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, T _C =25°C I _F =15A, T _C =125°C I _F =30A, T _C =25°C I _F =30A, T _C =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 @ T _C =25°C at Rated DC Blocking Voltage Per Leg @ T _C =125°C (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 θ _{JC}	1.0				1.5		°C/W
Typical Junction Capacitance	C _J	600		460		320		pF
Operating Junction Temperature Range	T _J	-65 to +150						°C
Storage Temperature Range	T _{STG}	-65 to +175						°C

Notes: 1. 2.0 μs Pulse Width, $f=1.0\text{ KHz}$

2. Pulse Test: 300 μs 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

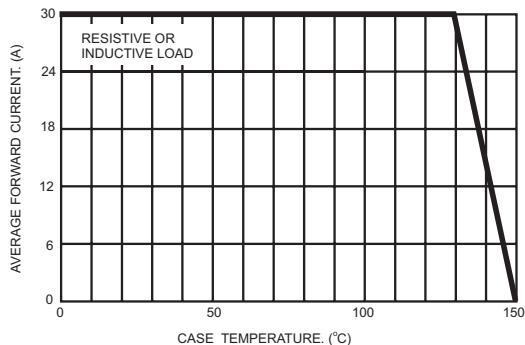


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

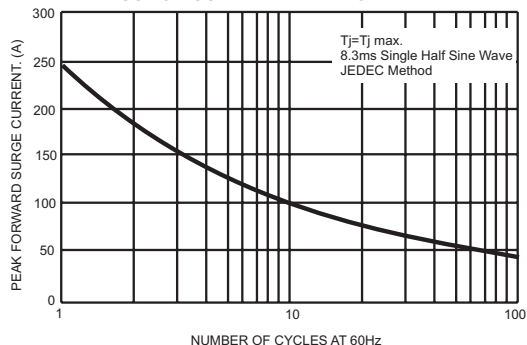


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

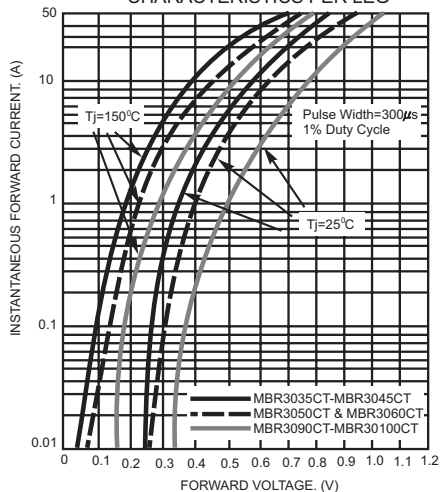


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

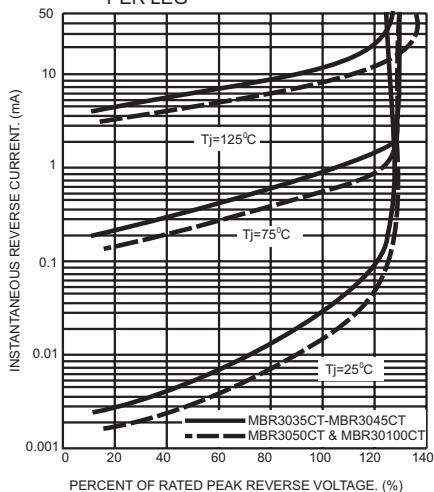


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

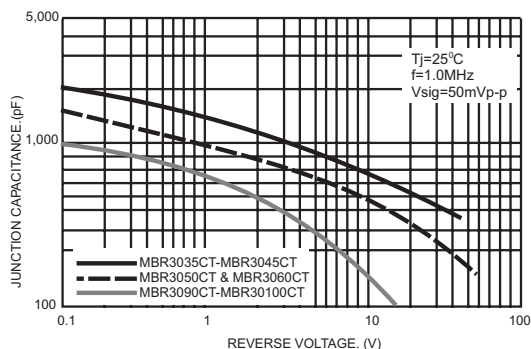


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

