



MBR1030CT THRU MBR10200CT

10.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
30 to 200 Volts
Current
10.0 Amperes

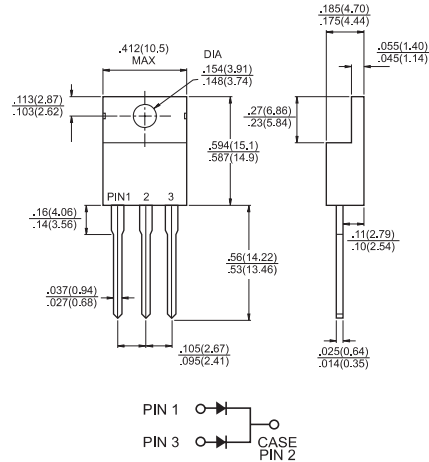
Features

- ✦ 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-220A molded plastic body
- ✦ Terminals: Lead 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



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 1030 CT	MBR 1035 CT	MBR 1040 CT	MBR 1045 CT	MBR 1050 CT	MBR 1060 CT	MBR 1010 OCT	MBR 1015 OCT	MBR 1020 OCT	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	30	35	40	45	50	60	100	150	200	V	
Maximum RMS Voltage	V_{RMS}	21	24	28	31	35	42	70	105	140	V	
Maximum DC Blocking Voltage	V_{DC}	30	35	40	45	50	60	100	150	200	V	
Maximum Average Forward Rectified Current at $T_C=125^\circ\text{C}$	$I_{(AV)}$	10										A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=125^\circ\text{C}$	I_{FRM}	32										A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120										A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	0.5										A
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F=5\text{A}$, $T_C=25^\circ\text{C}$ $I_F=5\text{A}$, $T_C=125^\circ\text{C}$	V_F	0.70 0.57		0.80 0.65		0.85 0.75	0.88 0.78	0.99 0.87			V	
Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2)	I_R	0.1					0.8		0.2		mA	
Voltage Rate of Change (Rated V_R)	dV/dt	10,000										V/uS
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	1.5										$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-65 to +150										$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175										$^\circ\text{C}$

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, Mount on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR1030CT THRU MBR10200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

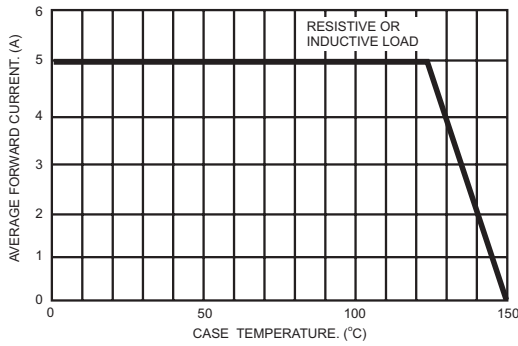


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

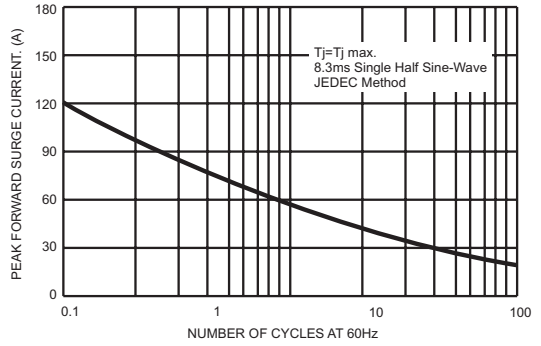


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

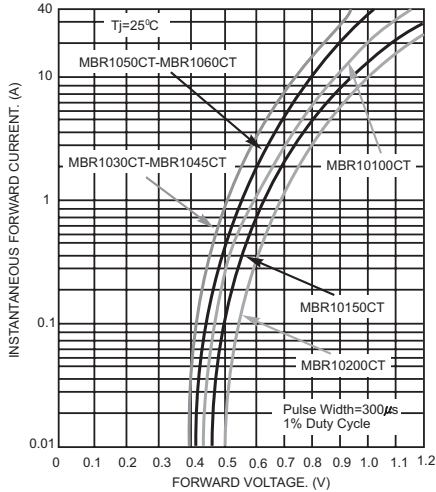


FIG.4- TYPICAL REVERSE CHARACTERISTICS

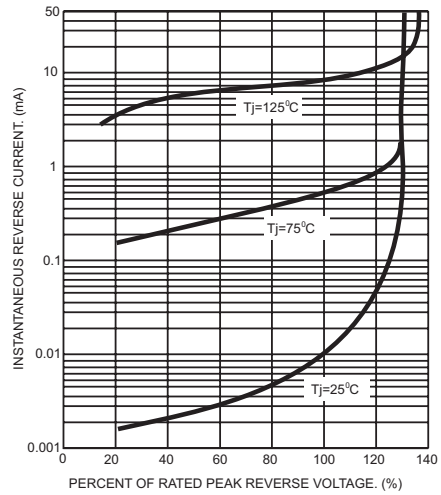


FIG.5- TYPICAL JUNCTION CAPACITANCE

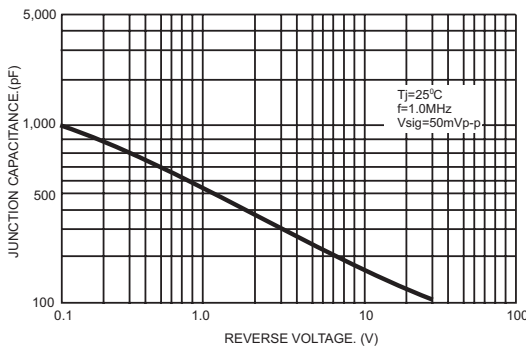


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

