



MBR2035CT THRU MBR20200CT

20.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 200 Volts
Current
20.0 Amperes

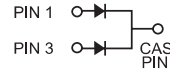
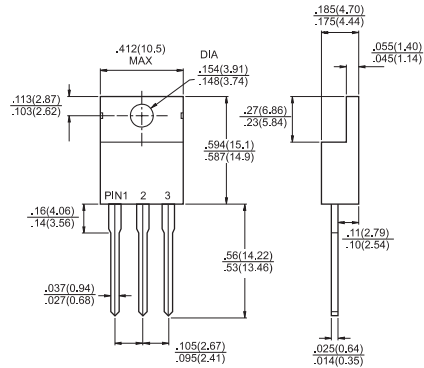
Features

- ✦ 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	MBR20 35CT	MBR20 45CT	MBR20 50CT	MBR20 60CT	MBR20 100CT	MBR20 150CT	MBR20 200CT	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	100	150	200	V	
Maximum RMS Voltage	V_{RMS}	24	31	35	42	70	105	140	V	
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	100	150	200	V	
Maximum Average Forward Rectified Current at $T_c=135^\circ\text{C}$	$I_{(AV)}$	20							A	
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_c=135^\circ\text{C}$	I_{FRM}	20.0							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			1.0		A	
Maximum Instantaneous Forward Voltage at (Note 2) IF=10A, TC=25°C IF=10A, TC=125°C IF=20A, TC=25°C IF=20A, TC=125°C	V_F	-		0.80		0.85		0.99	V	
		0.57		0.70		0.75		0.87		
		0.84		0.95		0.95		1.23		
		0.72		0.85		0.85		1.10		
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_c=125^\circ\text{C}$	I_R	0.1		0.15			1.0		mA mA	
		15							20	
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/ μs	
Typical Junction Capacitance	C_j	400			320				pF	
Typical Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0				2.0				°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. Thermal Resistance from Junction to Case Per Leg, with Heatsink Size (4"x6"x0.25") Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR2035CT THRU MBR20200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

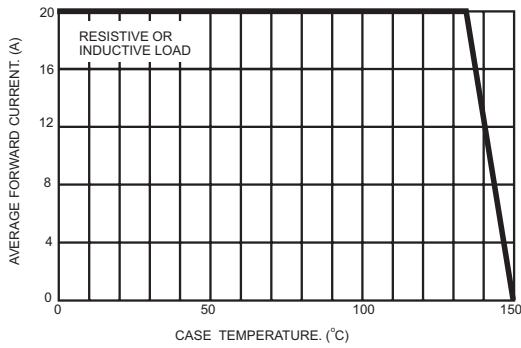


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

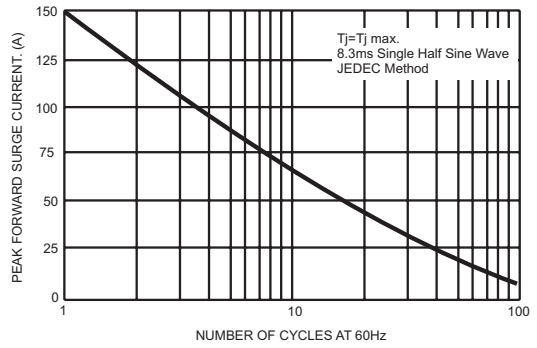


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

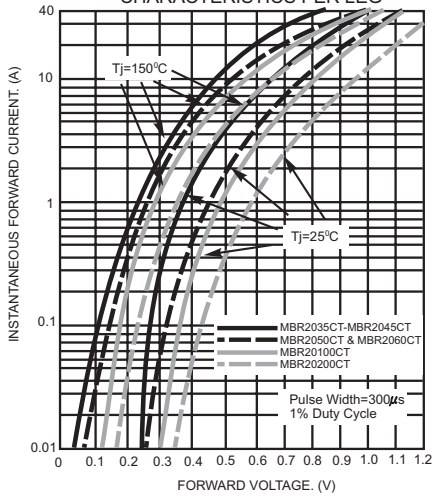


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

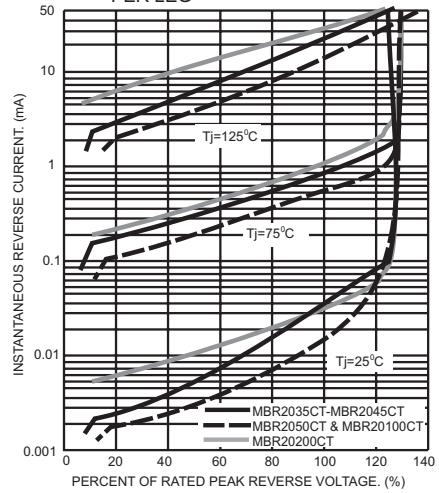


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

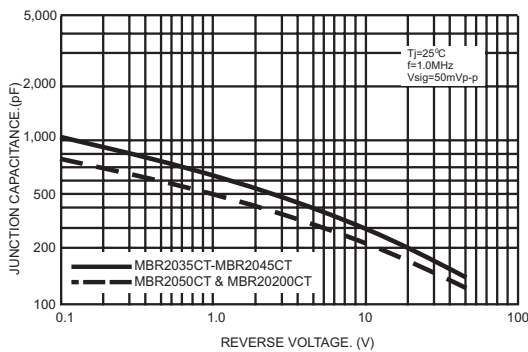


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

