



# MBR2035CT THRU MBR20200CT

## 20.0 AMPS. Schottky Barrier Rectifiers



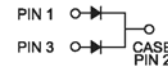
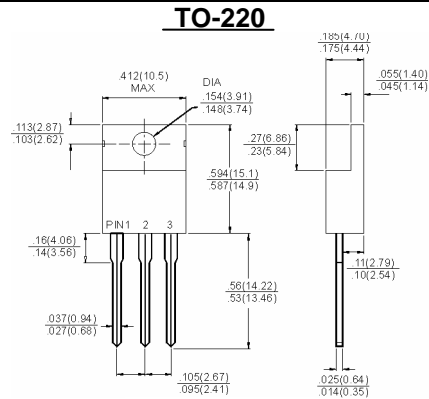
Voltage Range  
35 to 200 Volts  
Current  
20.0 Amperes

### 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



### 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	$V_F$	0.57 0.84 0.72	0.80 0.70 0.95 0.85		0.85 0.75 0.95 0.85		0.99 0.87 1.23 1.10	V		
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		
Voltage Rate of Change, (Rated $V_R$ )	dV/dt	15							20	V/ $\mu\text{S}$
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

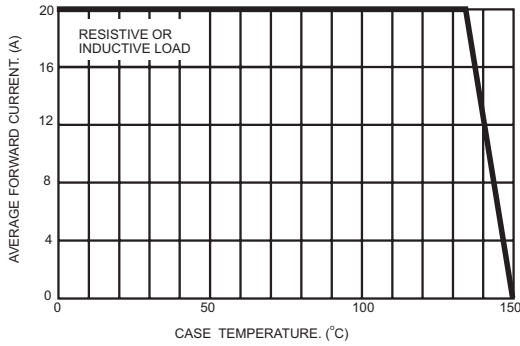


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

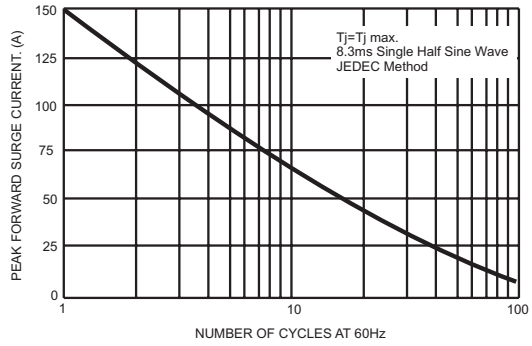


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

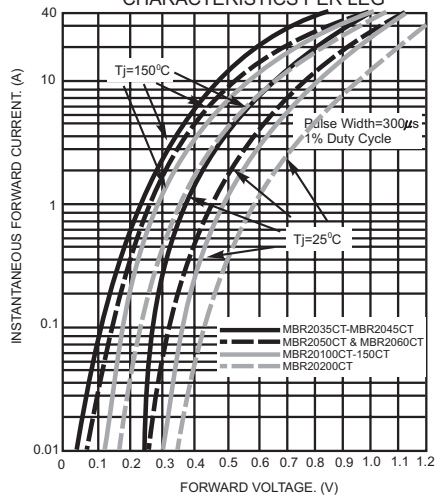


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

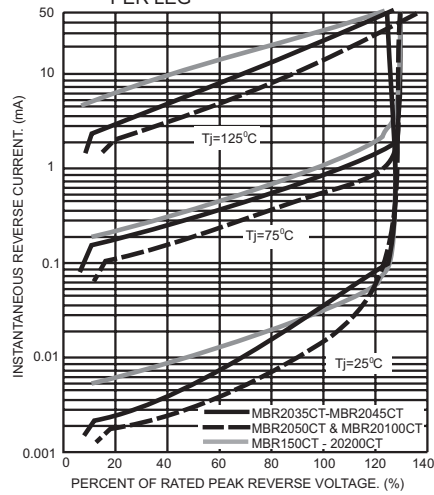


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

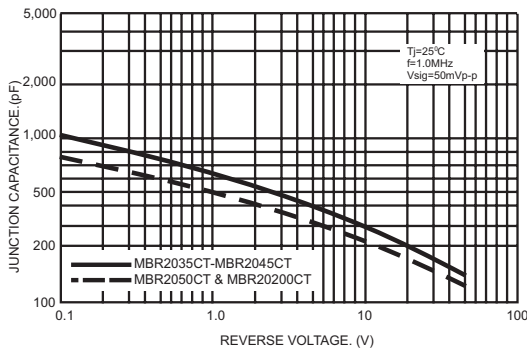


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

