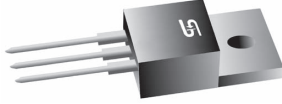




# MBR2035CT THRU MBR2060CT

## 20.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
35 to 60 Volts  
Current  
20.0 Amperes

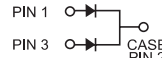
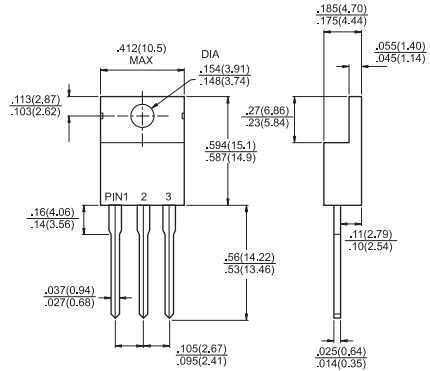
### Features

- ✧ 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	MBR 2035CT	MBR 2045CT	MBR 2050CT	MBR 2060CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	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		A
Maximum Instantaneous Forward Voltage at (Note 2) IF=10A, $T_c=25^\circ\text{C}$ IF=10A, $T_c=125^\circ\text{C}$ IF=20A, $T_c=25^\circ\text{C}$ IF=20A, $T_c=125^\circ\text{C}$	$V_F$	- 0.57 0.84 0.72		0.80 0.70 0.95 0.85		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 15.0		0.15 150.0		mA mA
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10,000				V/ $\mu\text{s}$
Typical Thermal Resistance Per Leg (Note 3)	$R \theta_{JC}$	2.0				$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-65 to +150				$^\circ\text{C}$
Storage Temperature Range	TSTG	-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

## RATINGS AND CHARACTERISTIC CURVES (MBR2035CT THRU MBR2060CT)

FIG.1- FORWARD CURRENT DERATING CURVE

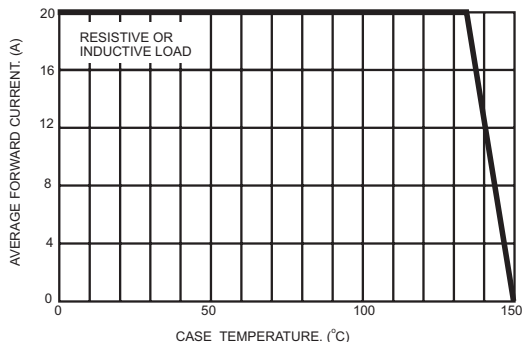


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

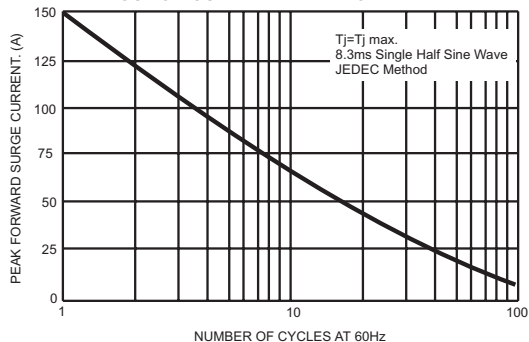


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

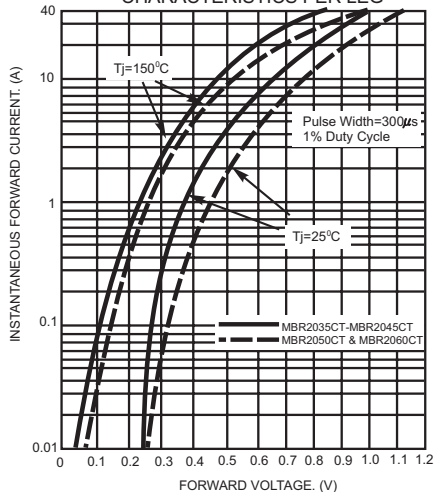


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

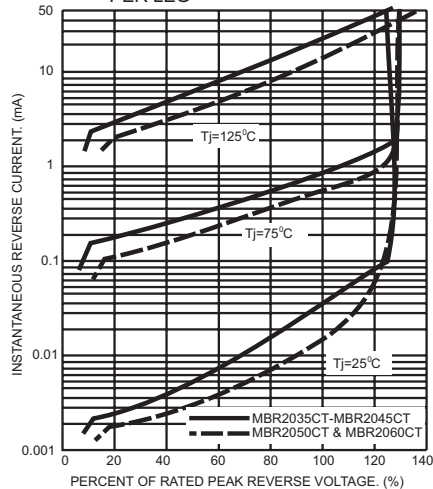


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

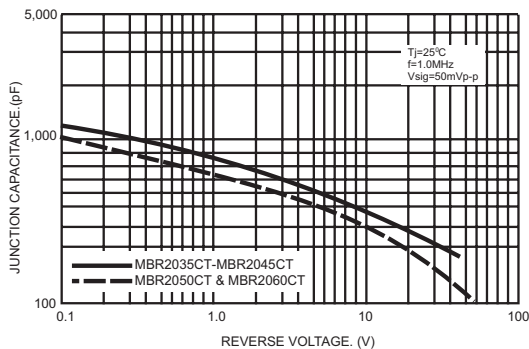


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

