



# MBR2535CT THRU MBR25100CT

## 25.0 AMPS. Schottky Barrier Rectifiers



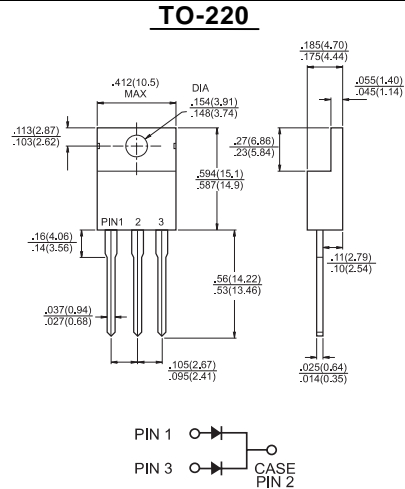
Voltage Range  
35 to 100 Volts  
Current  
25.0 Amperes

### 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	MBR25 35CT	MBR25 45CT	MBR25 50CT	MBR25 60CT	MBR25 90CT	MBR25 100CT	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 $T_c=130^\circ\text{C}$	$I_{(AV)}$	25						A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=130^\circ\text{C}$	$I_{FRM}$	25						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	200						A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1.0		0.5			A	
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=12.5\text{A}, T_c=25^\circ\text{C}$ $I_F=12.5\text{A}, T_c=125^\circ\text{C}$ $I_F=25\text{A}, T_c=25^\circ\text{C}$ $I_F=25\text{A}, T_c=125^\circ\text{C}$	$V_F$	-	-	0.75	-	0.85	-	V
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg @ $T_c=125^\circ\text{C}$ (Note 2)	$I_R$	0.2	40.0	-	0.2	50	-	mA mA
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	1,000						V/uS
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0						$^\circ\text{C}/\text{W}$
Typical Junction Capacitance	$C_j$	600		460			pF	
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, with Heatsink size (4"x6"x0.25") Al-Plate.

## RATINGS AND CHARACTERISTIC CURVES (MBR2535CT THRU MBR25100CT)

FIG.1- FORWARD CURRENT DERATING CURVE

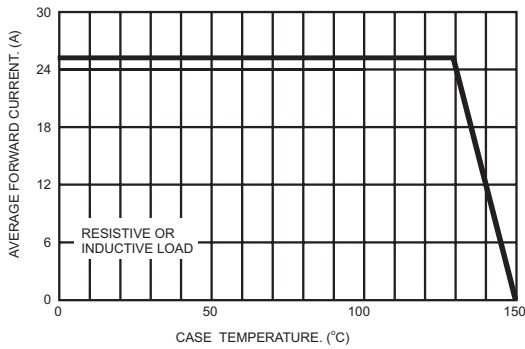


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

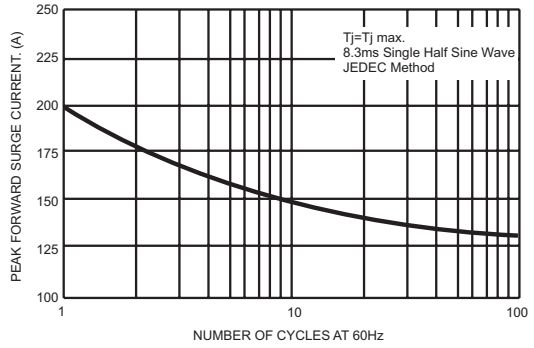


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

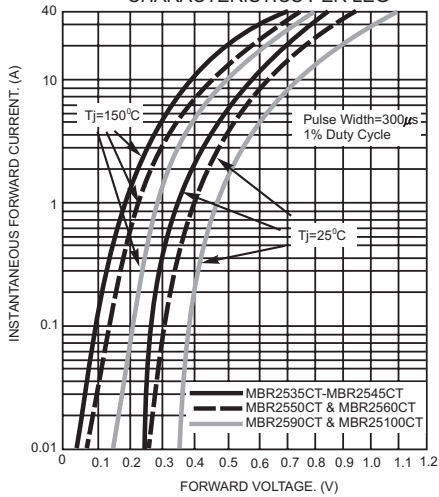


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

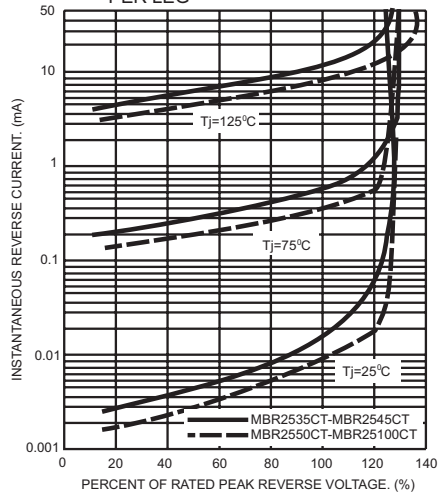


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

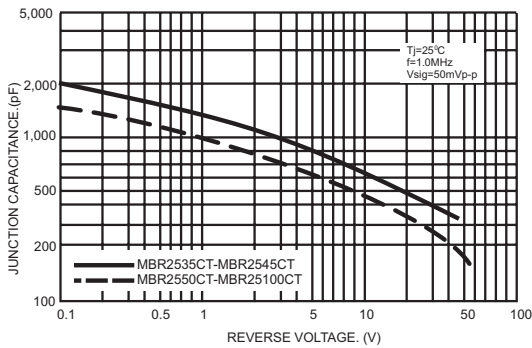


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

