

MBR2535CT - MBR25150CT

25.0 AMPS. Schottky Barrier Rectifiers

TO-220AB

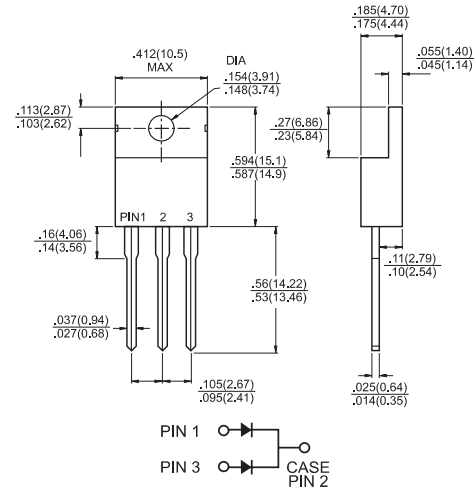


Features

- ✧ 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-220AB molded plastic
- ✧ Terminals: Pure tin plated, lead free. 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



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 2535 CT	MBR 2545 CT	MBR 2550 CT	MBR 2560 CT	MBR 2590 CT	MBR 25100 CT	MBR 25150 CT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	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	0.65	0.85	0.75	0.95	0.92	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	0.2	0.1	0.1	7.5	5	mA	
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/uS
Typical Junction Capacitance	C_j	600	460					pF	
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0							$^\circ\text{C/W}$
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, $f=1.0\text{ KHz}$
 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 MBR25150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

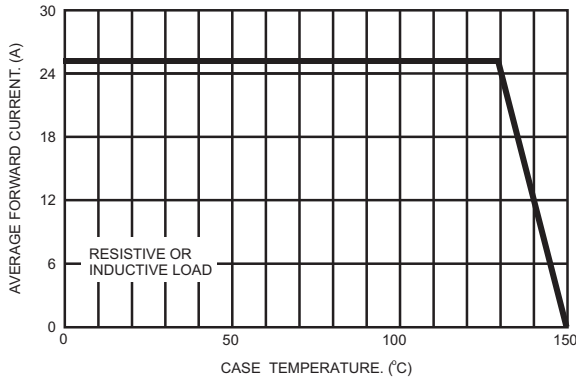


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

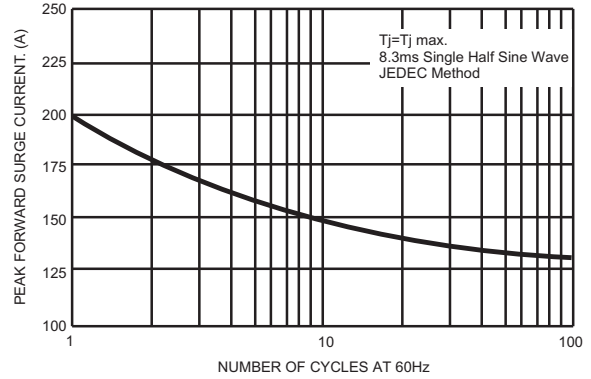


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

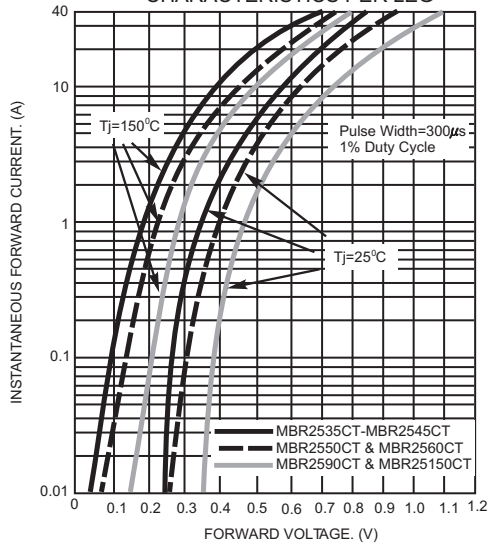


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

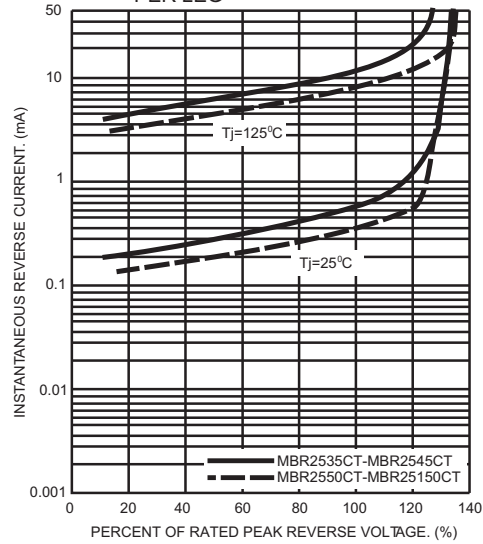


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

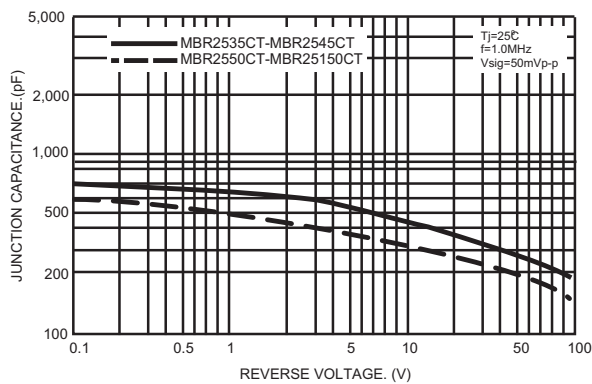


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

