

MBR2535CT - MBR25150CT

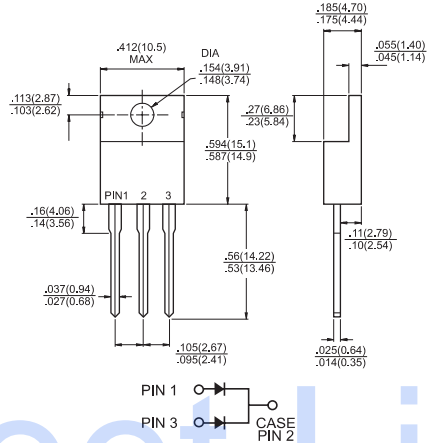
25.0 AMPS. Schottky Barrier Rectifiers

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		0.85		0.95	V
		—		0.65		0.75		0.92	V
		0.82		0.82		0.92		1.02	V
		0.73		0.78		0.88		0.98	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	mA mA
		15		10		7.5		5	mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	1,000							V/ μS
Typical Junction Capacitance	C_j	600			460				pF
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0							$^\circ\text{C}/\text{W}$
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. 2.0 μs Pulse Width, $f=1.0\text{ KHz}$
 2. Pulse Test: 300 μs 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

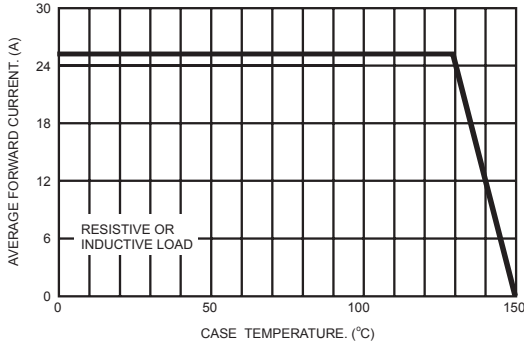


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

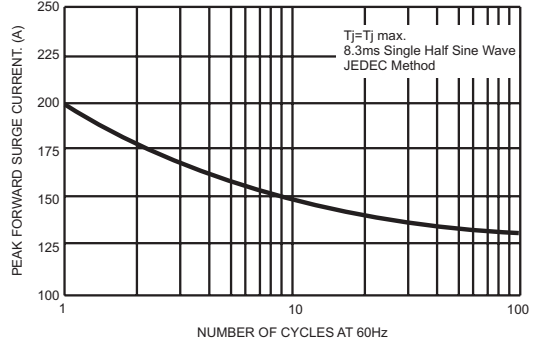


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

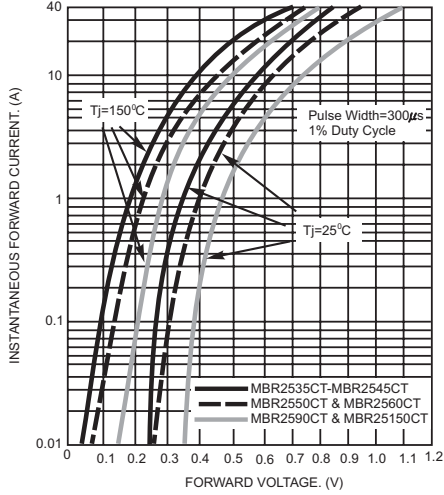


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

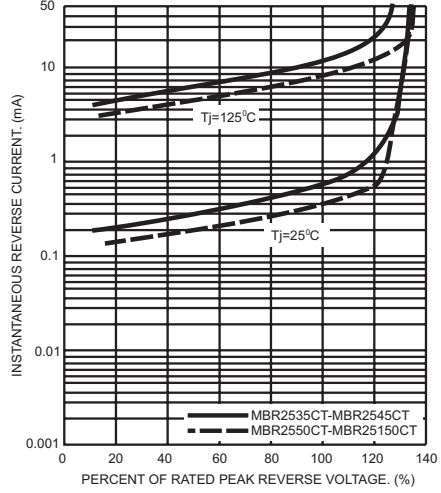


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

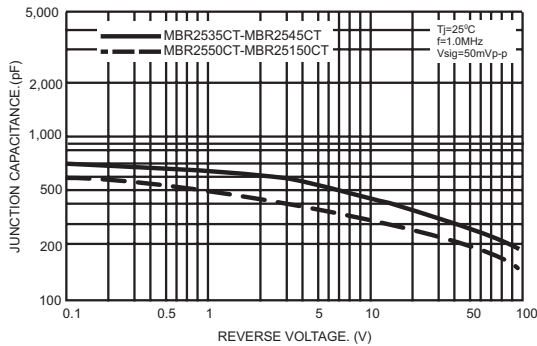


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

