



MBRF2535CT THRU MBRF2560CT

Isolation 25.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 60 Volts
Current
25.0 Amperes

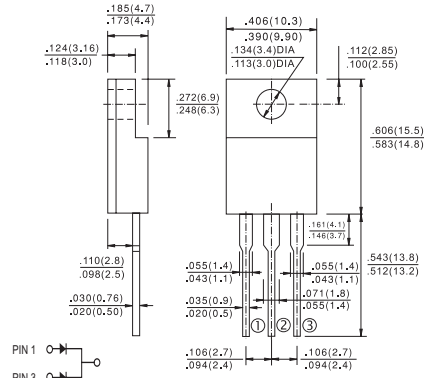
Features

- ✦ 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: ITO-220AB molded plastic body
- ✦ 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

ITO-220AB



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	MBRF 2535CT	MBRF 2545CT	MBRF 2550CT	MBRF 2560CT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	V
Maximum Working Peak Reverse 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 $T_c=130^\circ\text{C}$ Total device Per Leg	$I_{(AV)}$	25			12.5	A
Peak Repetitive Forward Current Per leg (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		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		1.0 50		mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	1,000				V/ μS
Typical Junction Capacitance	C_j	580		480		pF
Maximum Thermal Resistance Per Leg (Note 3) $R_{\theta JA}$ $R_{\theta JC}$		8.0 1.0				$^\circ\text{C}/\text{W}$
RMS Isolation Voltage (MBRF Type only) from Terminals to Heatsink with $t=1.0$ second, $R_H \leq 30\%$	V_{ISO}	4500 (Note 4) 3500 (Note 5) 1500 (Note 6)				V
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.
4. Clip Mounting (on case), where lead does not overlap heatsink with 0.110" offset.
5. Clip Mounting (on case), where leads do overlap heatsink.
6. Screw Mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19").

RATINGS AND CHARACTERISTIC CURVES (MBRF2535CT THRU MBRF2560CT)

FIG.1- FORWARD CURRENT DERATING CURVE

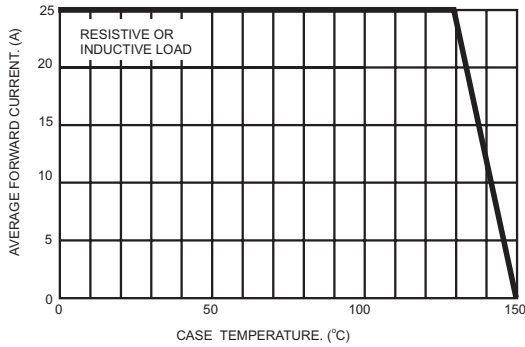


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

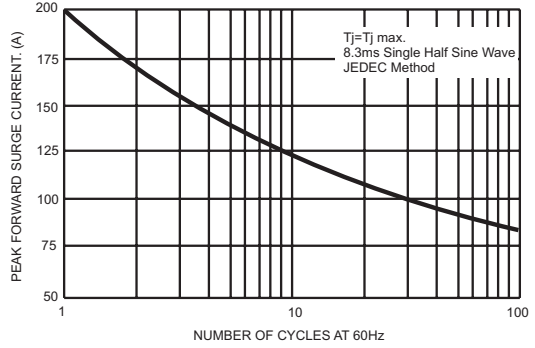


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

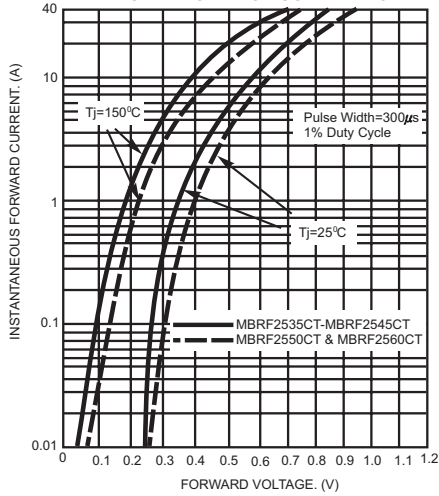


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

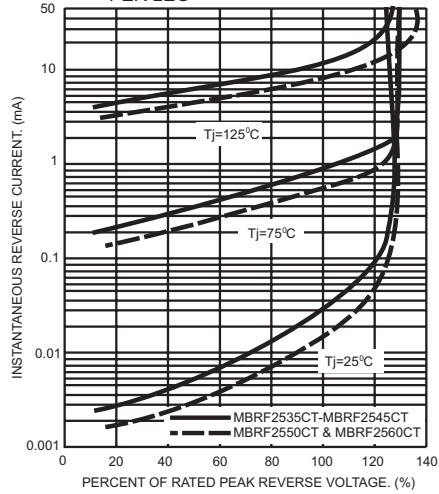


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

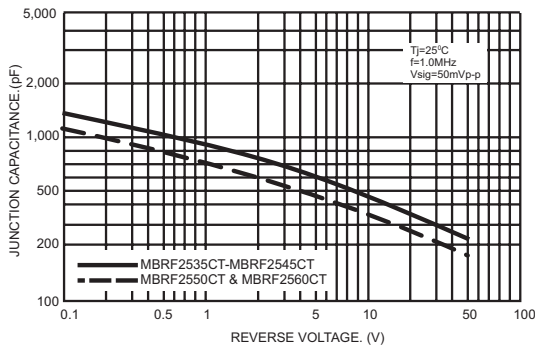


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

