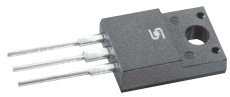
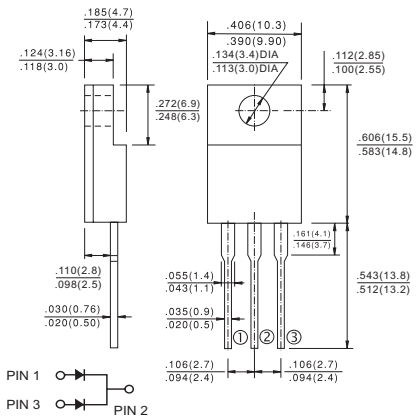
MBRF2535CT THRU MBRF2560CT

Isolation 30.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 60 Volts
Current
30.0 Amperes

ITO-220AB



Dimensions in inches and (millimeters)

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

Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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°C Total device / Per Leg	$I_{(AV)}$	30 / 15				A
Peak Repetitive Forward Current Per leg (Rated V_R, Square Wave, 20KHz) at Tc=130°C	I_{FRM}	30.0				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) I_F=15A, Tc=25°C / I_F=15A, Tc=125°C / I_F=30A, Tc=25°C / I_F=30A, Tc=125°C	V_F	- / - / 0.82 / 0.73		0.75 / 0.65 / – / -		V
Maximum Instantaneous Reverse Current @ Tc=25℃ at Rated DC Blocking Voltage Per Leg @ Tc=125℃ (Note 2)	I_R	0.2 / 40.0		1.0 / 50.0		mA / mA
Voltage Rate of Change, (Rated V_R)	dV/dt	1,000				V/uS
Maximum Thermal Resistance Per Leg (Note 3)	R θ JA / R θ JC	4.5				℃/W
RMS Isolation Voltage (MBRF Type only) from Terminals to Heatsink with t=1.0 second, RH≦30%	V_{ISO}	4500 (Note 4) / 3500 (Note 5) / 1500 (Note 6)				**V**
Operating Junction Temperature Range	T_J	-65 to +150				℃
Storage Temperature Range	TSTG	-65 to +175				℃

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
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").

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RATINGS AND CHARACTERISTIC CURVES (MBRF2535CT THRU MBRF2560CT)

FIG.1- FORWARD CURRENT DERATING CURVE

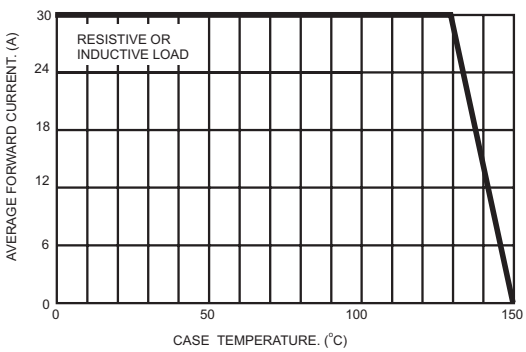

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

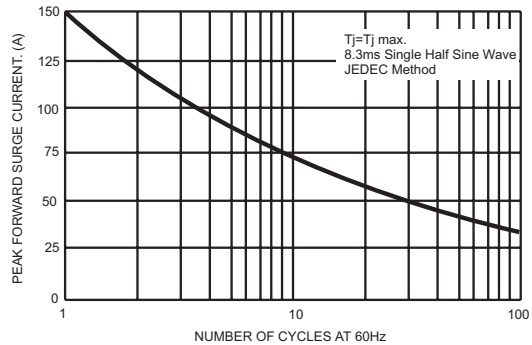

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

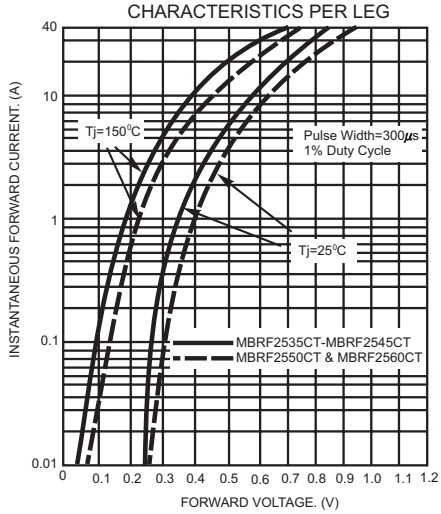

FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

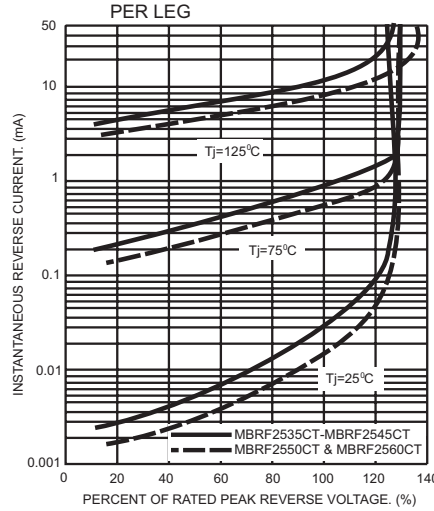

FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

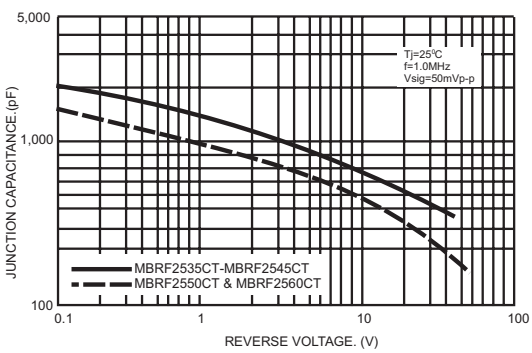

FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG