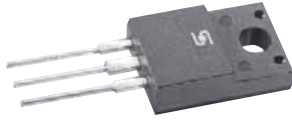


# MBRF2535CT - MBRF25150CT

Isolated 25.0 AMPS. Schottky Barrier Rectifiers  
ITO-220AB

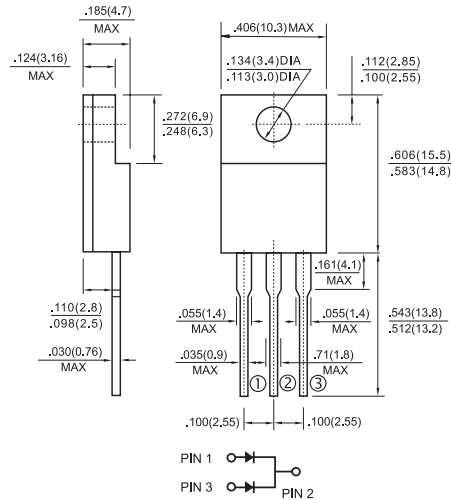


## Features

- ✧ 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: ITO-220AB molded plastic body
- ✧ 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	MBRF 2535 CT	MBRF 2545 CT	MBRF 2550 CT	MBRF 2560 CT	MBRF 2590 CT	MBRF 25100 CT	MBRF 25150 CT	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	150	V	
Maximum Working Peak Reverse 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 $T_C=130^\circ\text{C}$ 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	—	0.85	—	0.95	V	
Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg @ $T_C=125^\circ\text{C}$	$I_R$	0.2	15	0.2	10	0.1	7.5	0.1	5	mA
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	1,000							V/ $\mu\text{s}$	
Typical Junction Capacitance	$C_j$	580			480				pF	
RMS Isolation Voltage (MBRF Type only) from Terminals to Heatsink with $t=1.0$ second, RH $\leq$ 30%	$V_{ISO}$	4500 (Note 4) 3500 (Note 5) 1500 (Note 6)							V	
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	8.0 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. 2.0us 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  $\leq$  4.9 mm (0.19").

## RATINGS AND CHARACTERISTIC CURVES (MBRF2535CT THRU MBRF25150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

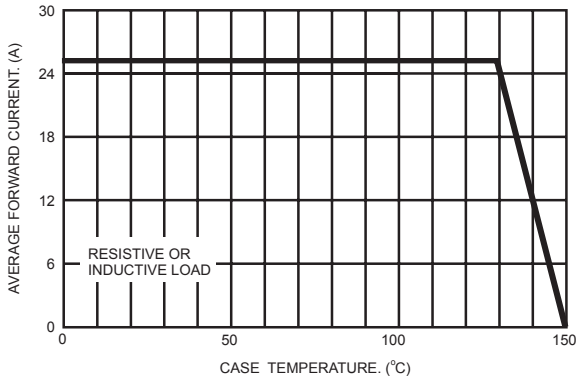


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

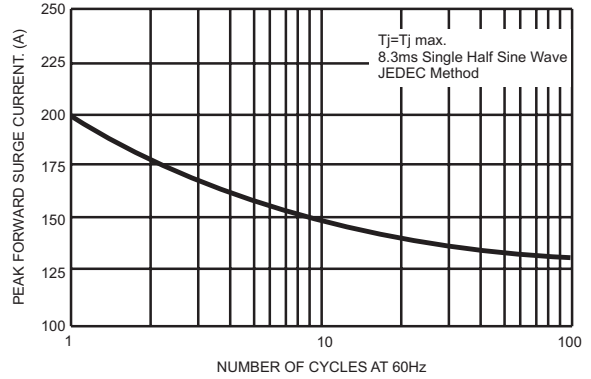


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

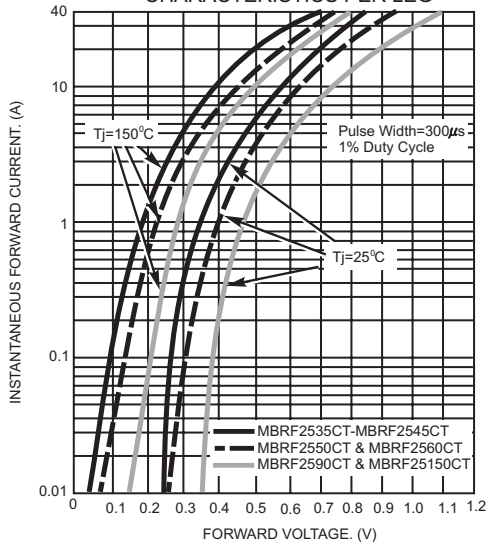


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

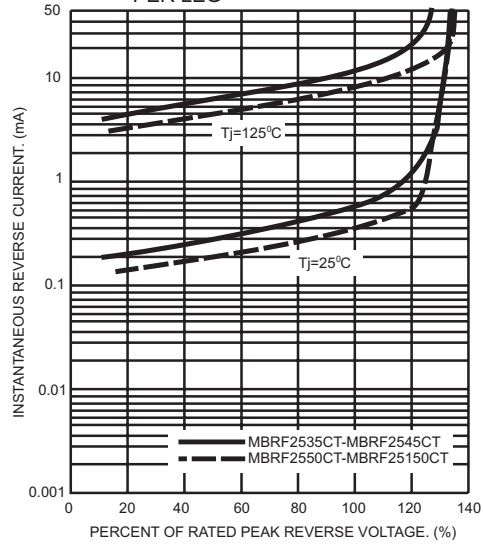


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

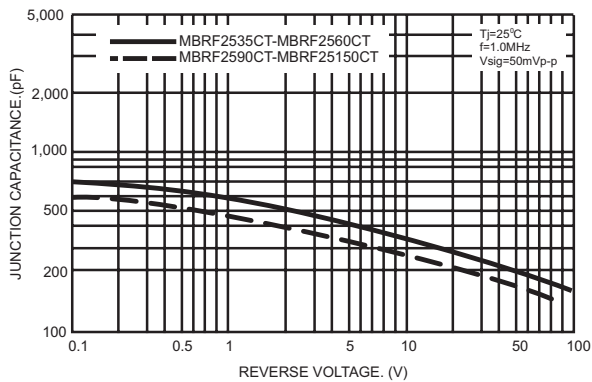


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

