

# MBRS1535CT - MBR15150CT

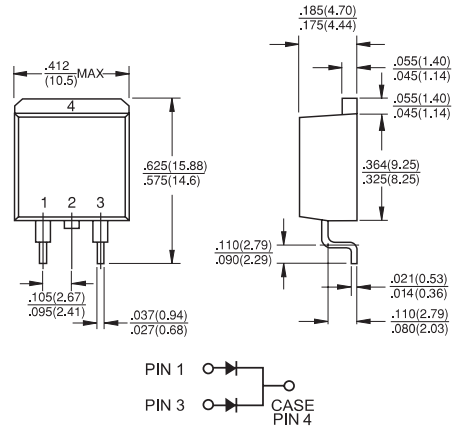
## 15.0 AMPS. Surface Mount Schottky Barrier Rectifiers

### D<sup>2</sup>PAK



## Features

- ✧ For surface mounted application
- ✧ 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 transient protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, at terminals



## Mechanical Data

- ✧ Cases: JEDEC D<sup>2</sup>PAK 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: 0.06 ounce, 1.70 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	MBRS 1535 CT	MBRS 1545 CT	MBRS 1550 CT	MBRS 1560 CT	MBRS 1590 CT	MBRS 15100 CT	MBRS 15150 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 $T_C=105^\circ\text{C}$	$I_{(AV)}$	15							A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C=105^\circ\text{C}$	$I_{FRM}$	15.0							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) $I_F=7.5\text{A}, T_C=25^\circ\text{C}$ $I_F=7.5\text{A}, T_C=125^\circ\text{C}$ $I_F=15\text{A}, T_C=25^\circ\text{C}$ $I_F=15\text{A}, T_C=125^\circ\text{C}$	$V_F$	— 0.57 0.84 0.72	— 0.65	0.75 0.65	— —	0.92 0.82	— —	0.95 0.92	V
Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2) @ $T_C=125^\circ\text{C}$	$I_R$	0.1 15.0	—	0.1 10	—	0.1 5.0	—	—	mA mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	1,000							V/ $\mu\text{S}$
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	50 2.0							$^\circ\text{C}/\text{W}$
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,  $f=1.0\text{ KHz}$   
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle  
 3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plate.

## RATINGS AND CHARACTERISTIC CURVES (MBRS1535CT THRU MBRS15150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

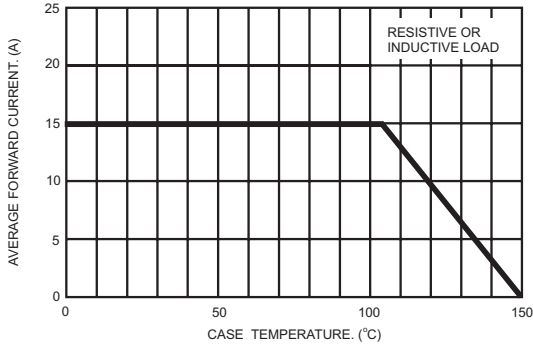


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

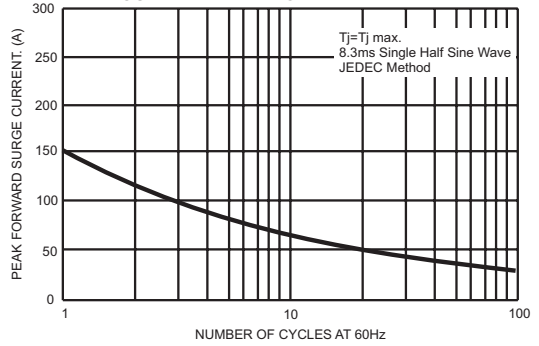


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

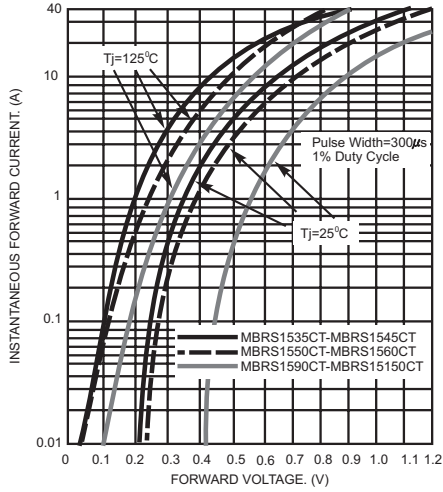


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

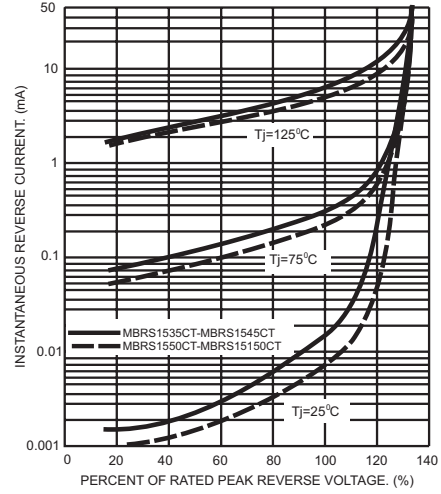


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

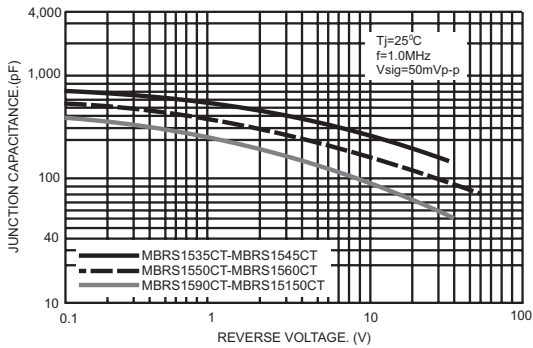


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

