



# MBRS1535CT THRU MBR15100CT

## 15.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
35 to 100 Volts  
Current  
15.0 Amperes

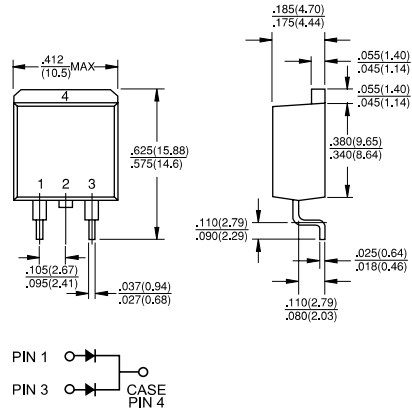
### Features

- ✧ 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: 250°C/10 seconds, at terminals

### Mechanical Data

- ✧ Cases: JEDEC D<sup>2</sup>PAK 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: 0.06 ounce, 1.70 grams

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



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	MBRS 1535CT	MBRS 1545CT	MBRS 1550CT	MBRS 1560CT	MBRS 1590CT	MBRS 15100CT	Units
Maximum Recurrent Peak Reverse Voltage	35	45	50	60	90	100	V
Maximum RMS Voltage	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current at T <sub>c</sub> =105°C	15						A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20KHz) at T <sub>c</sub> =105°C	15.0						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	150						A
Peak Repetitive Reverse Surge Current (Note 1)	1.0			0.5			A
Maximum Instantaneous Forward Voltage at (Note 2) I <sub>F</sub> =7.5A, T <sub>c</sub> =25°C I <sub>F</sub> =7.5A, T <sub>c</sub> =125°C I <sub>F</sub> =15A, T <sub>c</sub> =25°C I <sub>F</sub> =15A, T <sub>c</sub> =125°C	- 0.57 0.84 0.72	0.75 0.65		0.92 0.82		- -	V
Maximum Instantaneous Reverse Current @ T <sub>c</sub> =25°C at Rated DC Blocking Voltage (Note 2) @ T <sub>c</sub> =125°C	0.1 15.0	1.0 50.0			0.1 -		mA mA
Voltage Rate of Change (Rated V <sub>R</sub> )	1,000						V/uS
Maximum Thermal Resistance Per Leg (Note 3) R <sub>θ</sub> JA R <sub>θ</sub> JC	50.0 2.0						°C/W
Operating Junction Temperature Range T <sub>J</sub>	-65 to +150						°C
Storage Temperature Range T <sub>STG</sub>	-65 to +175						°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 and Thermal Resistance from Junction to Ambient

## RATINGS AND CHARACTERISTIC CURVES (MBRS1535CT THRU MBRS15100CT)

FIG.1- FORWARD CURRENT DERATING CURVE

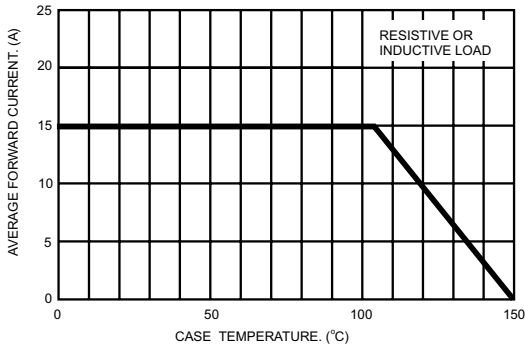


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

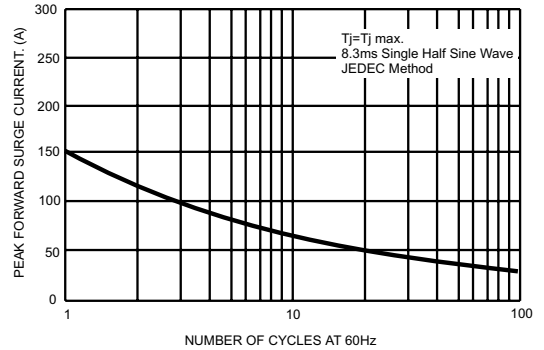


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

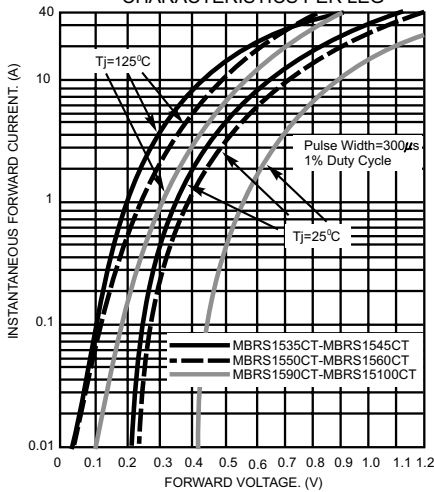


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

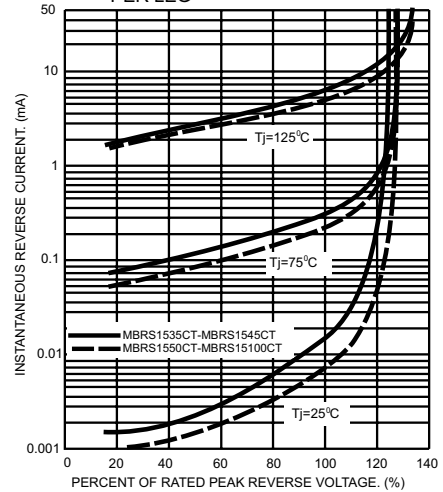


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

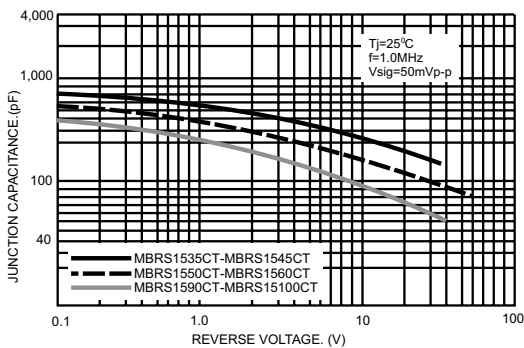


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

