

# MBRS1535CT - MBR15150CT

## 15.0 AMPS. Surface Mount Schottky Barrier Rectifiers

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

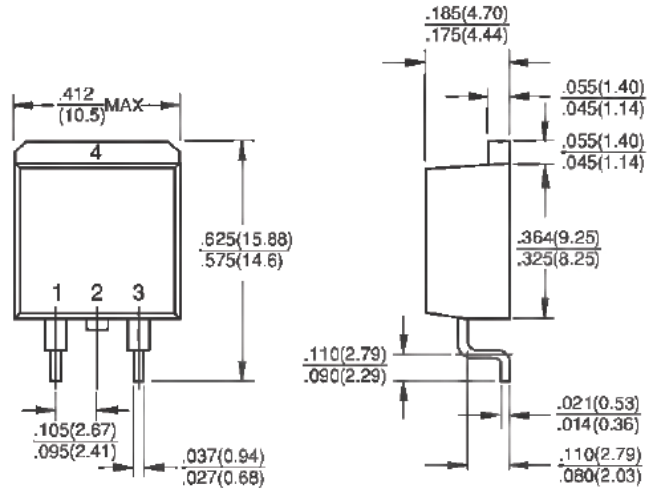


### Features

- ✦ UL Recognized File # E-326854
- ✦ For surface mounted application
- ✦ Plastic material used carriers Underwriters Laboratory Classification 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
- ✦ Guard-ring for transient protection
- ✦ High temperature soldering guaranteed: 260°C/10 seconds, at terminals
- ✦ Green compound with suffix "G" on packing code & prefix "G" on datecode

### Mechanical Data

- ✦ Case: 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: 1.35 grams



### Dimensions in inches and (millimeters)

#### Marking Diagram



- MBR15XXCT = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### 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	MBRS	MBRS	MBRS	MBRS	MBRS	MBRS	Unit
		1535 CT	1545 CT	1550 CT	1560 CT	1590 CT	15100 CT	15150 CT	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V <sub>RMS</sub>	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current at TC=105°C	I <sub>F(AV)</sub>	15							A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at TC=105°C	I <sub>FRM</sub>	15							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>	150							A
Peak Repetitive Reverse Surge Current (Note 1)	I <sub>RRM</sub>	1	0.5					A	
Maximum Instantaneous Forward Voltage (Note 2) IF=7.5A, T <sub>A</sub> =25°C IF=7.5A, T <sub>A</sub> =125°C IF=15A, T <sub>A</sub> =25°C IF=15A, T <sub>A</sub> =125°C	V <sub>F</sub>	-	0.57	0.75	0.65	0.92	0.82	0.95	V
Maximum Reverse Current @ Rated VR T <sub>A</sub> =25°C T <sub>A</sub> =125°C	I <sub>R</sub>	15	10	0.1				5	mA
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10000							V/us
Typical Thermal Resistance Per Leg (Note 3)	R <sub>θJA</sub> R <sub>θJC</sub>	50 2							°C/W
Operating Temperature Range	T <sub>J</sub>	- 65 to + 150							°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 175							°C

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

Note 3: Mounted on Heatsink Size of 2in x 3in x 0.25in Al-Plate

## RATINGS AND CHARACTERISTIC CURVES (MBRS1535CT THRU MBRS15150CT)

FIG.1 FORWARD CURRENT DERATING CURVE

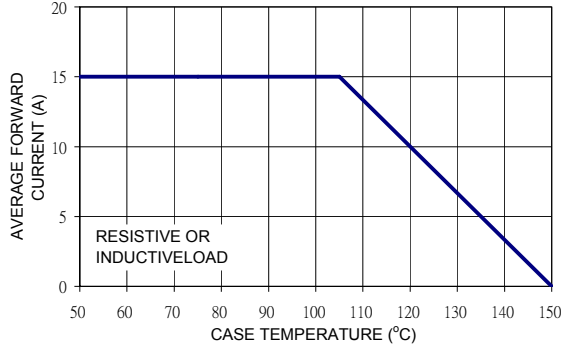


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

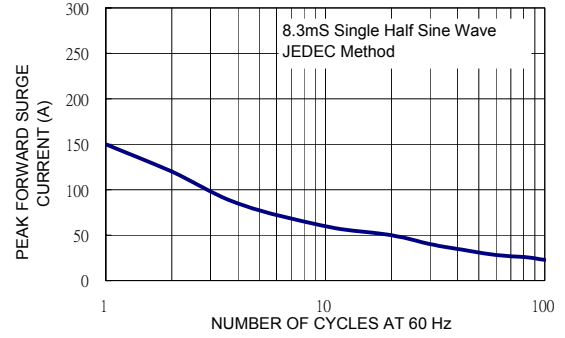


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

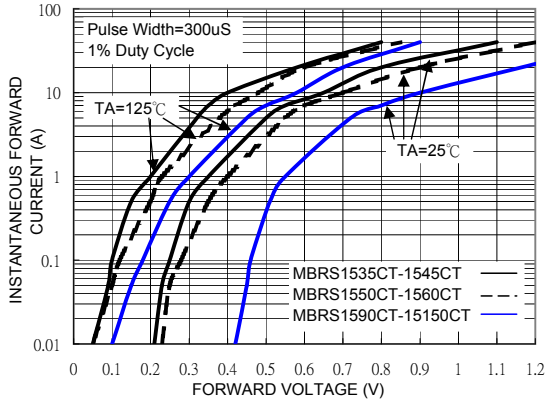


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

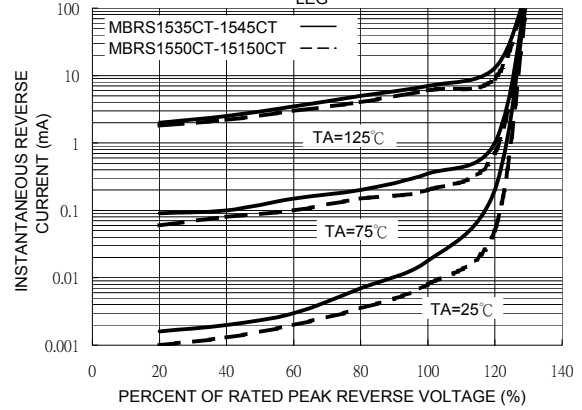


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

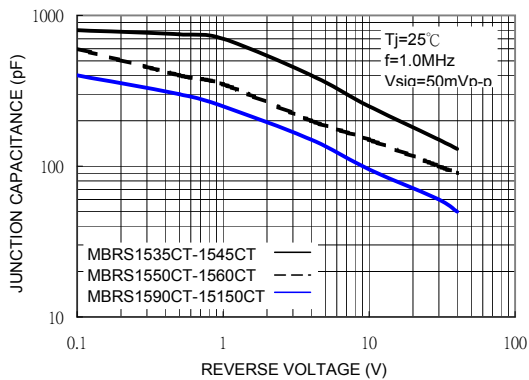


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

