


**RoHS  
COMPLIANCE**


## MBRS1035CT - MBRS10150CT

### 10.0AMPS Surface Mount Schottky Barrier Rectifiers

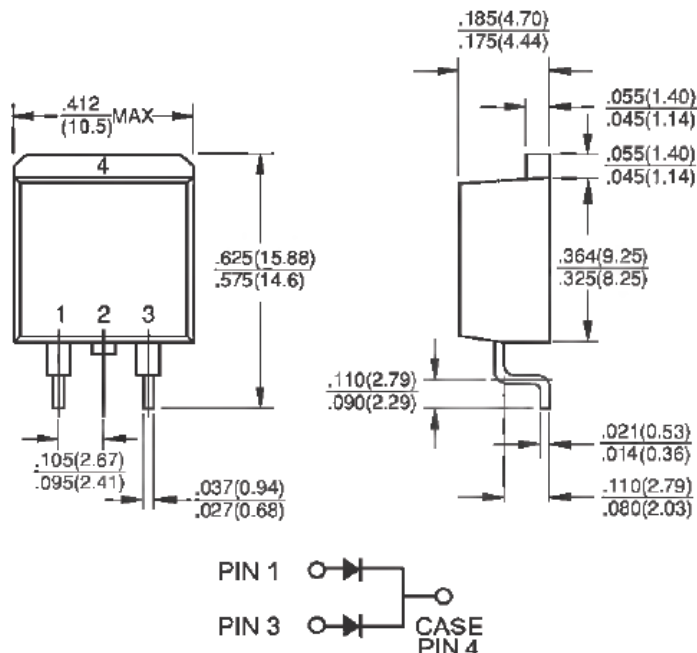
### D<sup>2</sup>PAK

### Features

- ✧ UL Recognized File # E-326854
- ✧ 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 overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.25", (6.35mm) from case
- ✧ 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



MBRS10XXCT = 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<br>1035<br>CT                   | MBRS<br>1045<br>CT | MBRS<br>1050<br>CT           | MBRS<br>1060<br>CT | MBRS<br>1090<br>CT           | MBRS<br>10100<br>CT | MBRS<br>10150<br>CT          | Unit |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------|--------------------|------------------------------|--------------------|------------------------------|---------------------|------------------------------|------|
| 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                                                                                                                                  | I <sub>F(AV)</sub> | 10                                   |                    |                              |                    |                              |                     |                              | A    |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)                                                                         | I <sub>FSM</sub>   | 120                                  |                    |                              |                    |                              |                     |                              | A    |
| Peak Repetitive Reverse Surge Current (Note 1)                                                                                                                             | I <sub>RRM</sub>   | 1                                    |                    |                              |                    |                              |                     |                              | A    |
| Maximum Instantaneous Forward Voltage (Note 2)<br>IF=5A, T <sub>A</sub> =25℃<br>IF=5A, T <sub>A</sub> =125℃<br>IF=10A, T <sub>A</sub> =25℃<br>IF=10A, T <sub>A</sub> =125℃ | V <sub>F</sub>     | 0.70<br>0.57<br>0.80<br>0.67         |                    | 0.80<br>0.65<br>0.90<br>0.75 |                    | 0.85<br>0.75<br>0.95<br>0.85 |                     | 0.88<br>0.78<br>0.98<br>0.88 | V    |
| Maximum Reverse Current @ Rated VR T <sub>A</sub> =25℃<br>T <sub>A</sub> =100℃<br>T <sub>A</sub> =125℃                                                                     | I <sub>R</sub>     | 0.1<br>15      10      -<br>-      5 |                    |                              |                    |                              |                     |                              | mA   |
| Typical Thermal Resistance                                                                                                                                                 | R <sub>θJC</sub>   | 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

## RATINGS AND CHARACTERISTIC CURVES (MBRS1035CT THRU MBRS10150CT)

FIG. 1 FORWARD CURRENT DERATING CURVE

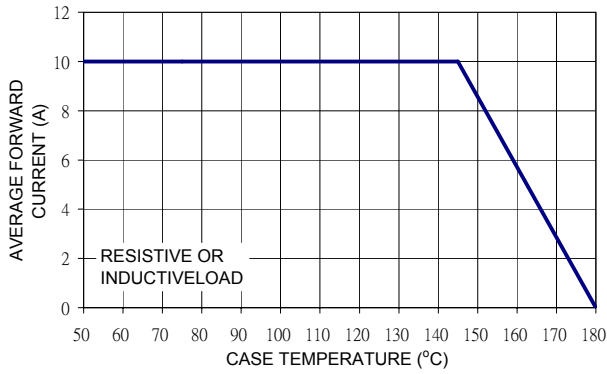


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

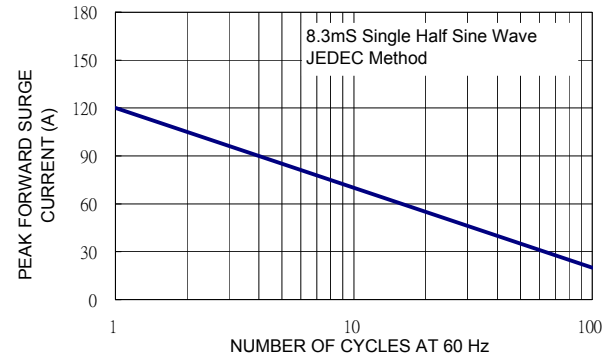


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

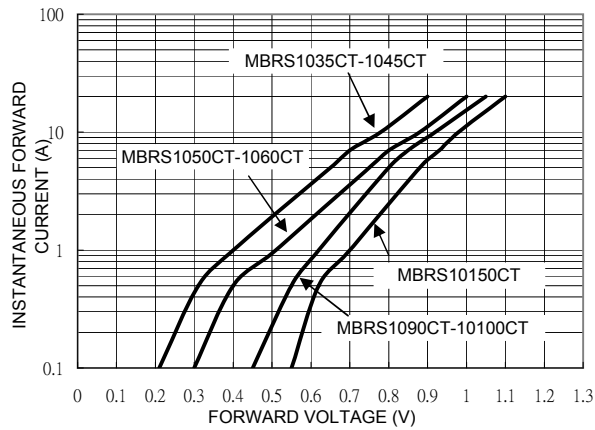


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

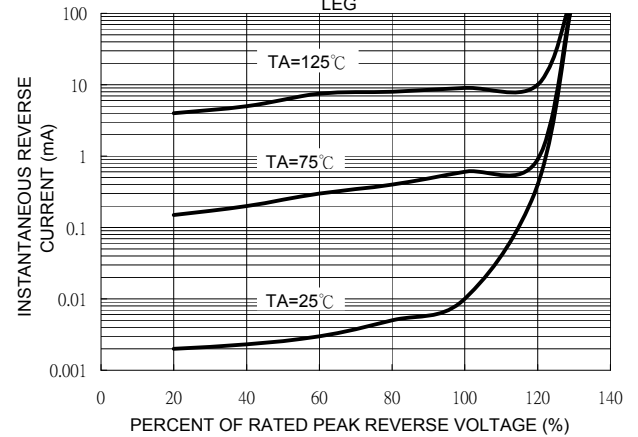


FIG. 5 TYPICAL JUNCTION CAPACITANCE

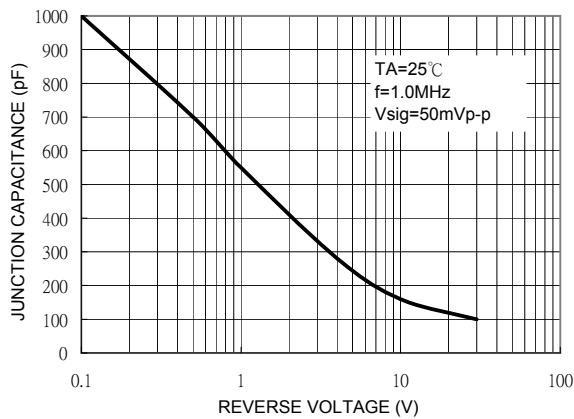


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

