

### DUAL SCHOTTKY RECTIFIERS

VOLTAGE RANGE: 30 - 60 V  
CURRENT: 10 A

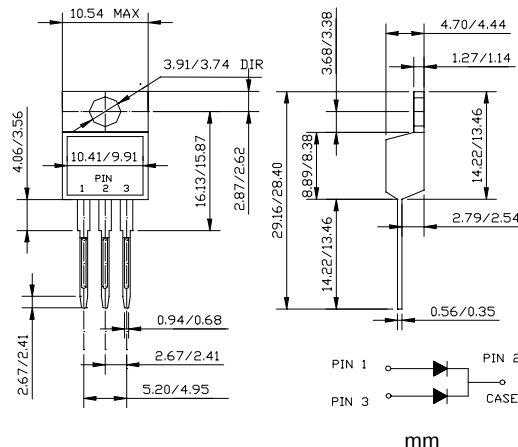
#### FEATURES

- ◇ High surge capacity.
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◇ Metal silicon junction, majority carrier conduction.
- ◇ High current capacity, low forward voltage drop.
- ◇ Guard ring for over voltage protection.

#### MECHANICAL DATA

- ◇ Case: JEDEC TO-220AB, molded plastic body
- ◇ Terminals: Leads, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Weight: 0.08 ounce, 2.24 grams
- ◇ Position: Any

#### TO-220AB



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

|                                                                                                                                                                                          |                    | MBR 1030CT           | MBR 1035CT | MBR 1040CT | MBR 1045CT | MBR 1050CT           | MBR 1060CT | UNITS |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|------------|------------|------------|----------------------|------------|-------|
| Maximum recurrent peak reverse voltage                                                                                                                                                   | V <sub>RRM</sub>   | 30                   | 35         | 40         | 45         | 50                   | 60         | V     |
| Maximum RMS Voltage                                                                                                                                                                      | V <sub>RMS</sub>   | 21                   | 25         | 28         | 32         | 35                   | 42         | V     |
| Maximum DC blocking voltage                                                                                                                                                              | V <sub>DC</sub>    | 30                   | 35         | 40         | 45         | 50                   | 60         | V     |
| Maximum average forw ard total device rectified current @T <sub>C</sub> = 105°C                                                                                                          | I <sub>F(AV)</sub> | 10.0                 |            |            |            |                      |            | A     |
| Peak forw ard surge current 8.3ms single half sine-w ave superimposed on rated load                                                                                                      | I <sub>FSM</sub>   | 125.0                |            |            |            |                      |            | A     |
| Maximum forw ard voltage per leg (I <sub>F</sub> =5.0A,T <sub>C</sub> =125°C)<br>(I <sub>F</sub> =5.0A,T <sub>C</sub> =25°C)<br>(NOTE 1)<br>(I <sub>F</sub> =10 A,T <sub>C</sub> =25 °C) | V <sub>F</sub>     | 0.57<br>0.70<br>0.84 |            |            |            | 0.70<br>0.80<br>0.95 |            | V     |
| Maximum reverse current @T <sub>C</sub> =25°C<br>at rated DC blocking voltage @T <sub>C</sub> =125°C                                                                                     | I <sub>R</sub>     | 0.1<br>15.0          |            |            |            |                      |            | m A   |
| Maximum thermal resistance per leg                                                                                                                                                       | R <sub>θJC</sub>   | 30                   |            |            |            |                      |            | K/W   |
| Operating junction temperature range                                                                                                                                                     | T <sub>J</sub>     | - 55 ---- + 150      |            |            |            |                      |            | °C    |
| Storage temperature range                                                                                                                                                                | T <sub>STG</sub>   | - 55 ---- + 150      |            |            |            |                      |            | °C    |

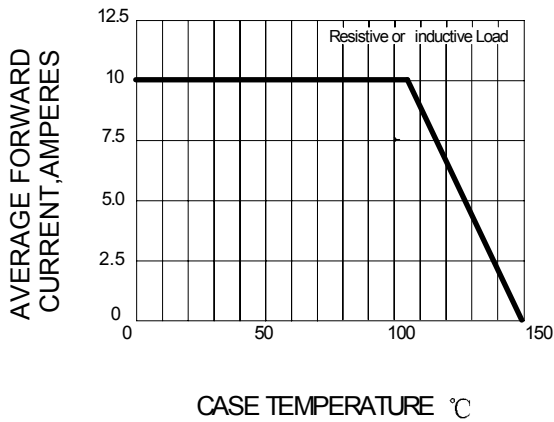
NOTE: 1. Pulse test: 300μs pulse width, 1% duty cycle.

2. 2.0μs pulse width, f=1.0KHz

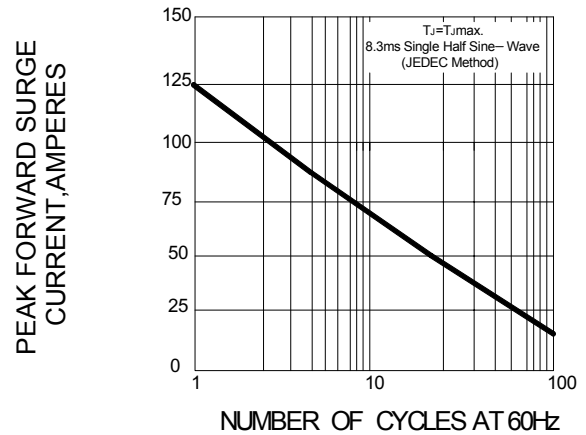
3. Thermal resistance from junction to case.

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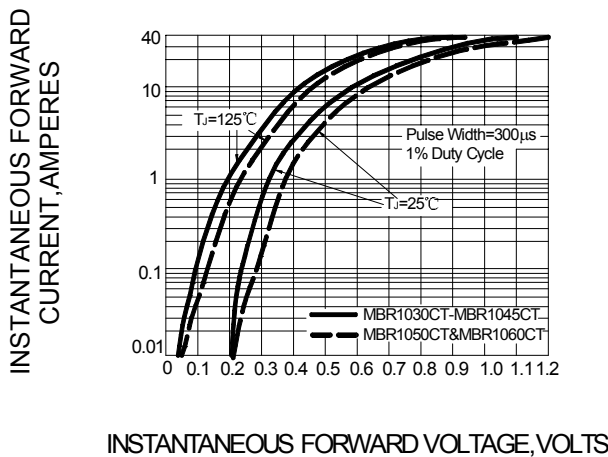
**FIG.1 -- FORWARD CURRENT DERATING CURVE**



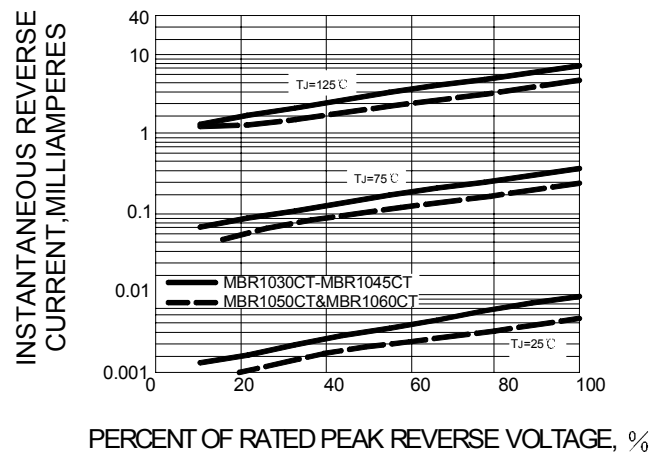
**FIG.2 -- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG**



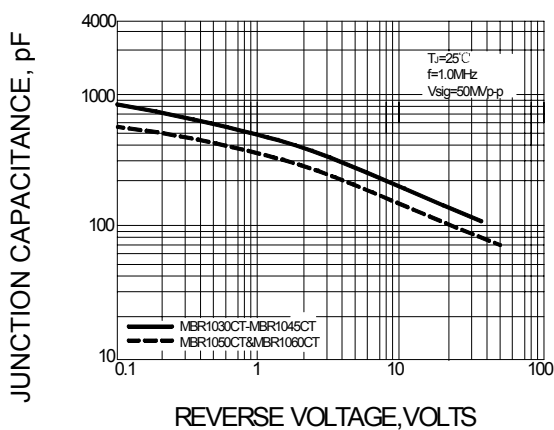
**FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PERLEG**



**FIG.4 -- TYPICAL REVERSE CHARACTERISTICS**



**FIG.5--TYPICAL JUNCTION CAPACITANCE PERLEG**



**FIG.6--TYPICAL TRANSIENT THERMAL IMPEDANCE PERLEG**

