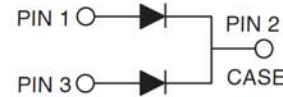


## Dual Common Cathode Schottky Rectifier

### FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition


**TO-220AB**


### MECHANICAL DATA

**Case:** TO-220AB

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B106

Meet JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.88 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                                                                                                                                         |                    |                     |                     |                     |                     |                     |                      |                      |                      |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|------|
| PARAMETER                                                                                                                                                                                                                            | SYMBOL             | MBR<br>2035<br>CT-Y | MBR<br>2045<br>CT-Y | MBR<br>2050<br>CT-Y | MBR<br>2060<br>CT-Y | MBR<br>2090<br>CT-Y | MBR<br>20100<br>CT-Y | MBR<br>20150<br>CT-Y | MBR<br>20200<br>CT-Y | UNIT |
| Marking code                                                                                                                                                                                                                         |                    | MBR<br>2035<br>CT   | MBR<br>2045<br>CT   | MBR<br>2050<br>CT   | MBR<br>2060<br>CT   | MBR<br>2090<br>CT   | MBR<br>20100<br>CT   | MBR<br>20150<br>CT   | MBR<br>20200<br>CT   |      |
| Maximum repetitive peak reverse voltage                                                                                                                                                                                              | V <sub>RRM</sub>   | 35                  | 45                  | 50                  | 60                  | 90                  | 100                  | 150                  | 200                  | V    |
| Maximum RMS voltage                                                                                                                                                                                                                  | V <sub>RMS</sub>   | 24                  | 31                  | 35                  | 42                  | 63                  | 70                   | 105                  | 140                  | V    |
| Maximum DC blocking voltage                                                                                                                                                                                                          | V <sub>DC</sub>    | 35                  | 45                  | 50                  | 60                  | 90                  | 100                  | 150                  | 200                  | V    |
| Maximum average forward rectified current                                                                                                                                                                                            | I <sub>F(AV)</sub> | 20                  |                     |                     |                     |                     |                      |                      |                      | A    |
| Peak repetitive forward current<br>(Rated VR, Square wave, 20KHz)                                                                                                                                                                    | I <sub>FRM</sub>   | 20                  |                     |                     |                     |                     |                      |                      |                      | A    |
| Peak forward surge current, 8.3 ms single half sine-wave<br>superimposed on rated load                                                                                                                                               | 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)<br>I <sub>F</sub> =10A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =10A, T <sub>J</sub> =125°C<br>I <sub>F</sub> =20A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =20A, T <sub>J</sub> =125°C | V <sub>F</sub>     | -                   |                     | 0.80                |                     | 0.85                |                      | 0.99                 |                      | V    |
|                                                                                                                                                                                                                                      |                    | 0.57                |                     | 0.70                |                     | 0.75                |                      | 0.87                 |                      |      |
|                                                                                                                                                                                                                                      |                    | 0.84                |                     | 0.95                |                     | 0.95                |                      | 1.23                 |                      |      |
|                                                                                                                                                                                                                                      |                    | 0.72                |                     | 0.85                |                     | 0.85                |                      | 1.10                 |                      |      |
| Maximum reverse current @ rated VR    T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125 °C                                                                                                                                                | I <sub>R</sub>     | 0.1                 |                     |                     |                     |                     |                      |                      |                      | mA   |
|                                                                                                                                                                                                                                      |                    | 15                  |                     | 10                  |                     | 5                   |                      |                      | 0.15                 |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                                                                                                                       | dV/dt              | 10000               |                     |                     |                     |                     |                      |                      |                      | V/μs |
| Typical thermal resistance                                                                                                                                                                                                           | R <sub>θJC</sub>   | 1.0                 |                     |                     |                     | 2.0                 |                      |                      |                      | °C/W |
| Operating junction temperature range                                                                                                                                                                                                 | T <sub>J</sub>     | - 55 to +150        |                     |                     |                     |                     |                      |                      |                      | °C   |
| Storage temperature range                                                                                                                                                                                                            | T <sub>STG</sub>   | - 55 to +150        |                     |                     |                     |                     |                      |                      |                      | °C   |

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION    |              |                     |          |           |
|-------------------------|--------------|---------------------|----------|-----------|
| PART NO.                | PACKING CODE | GREEN COMPOUND CODE | PACKAGE  | PACKING   |
| MBR20xxCT-Y<br>(Note 1) | C0           | Suffix "G"          | TO-220AB | 50 / Tube |

Note 1: "xx" defines voltage from 35V (MBR2035CT-Y) to 200V (MBR20200CT-Y)

| EXAMPLE         |             |              |                     |                |
|-----------------|-------------|--------------|---------------------|----------------|
| PREFERRED P/N   | PART NO.    | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION    |
| MBR2060CT-Y C0  | MBR2060CT-Y | C0           |                     |                |
| MBR2060CT-Y C0G | MBR2060CT-Y | C0           | G                   | Green compound |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- FORWARD CURRENT DERATING CURVE

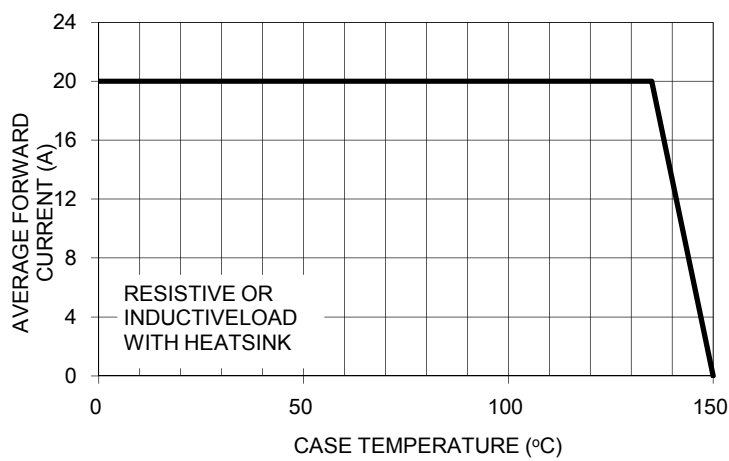


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

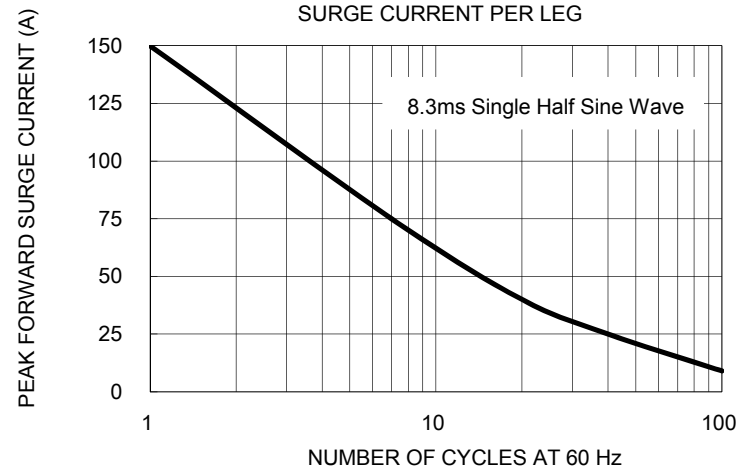


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

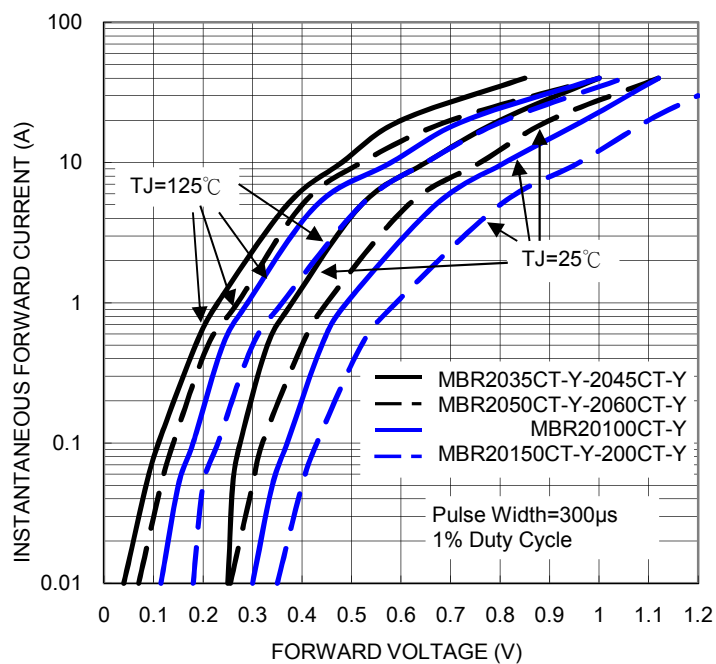


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

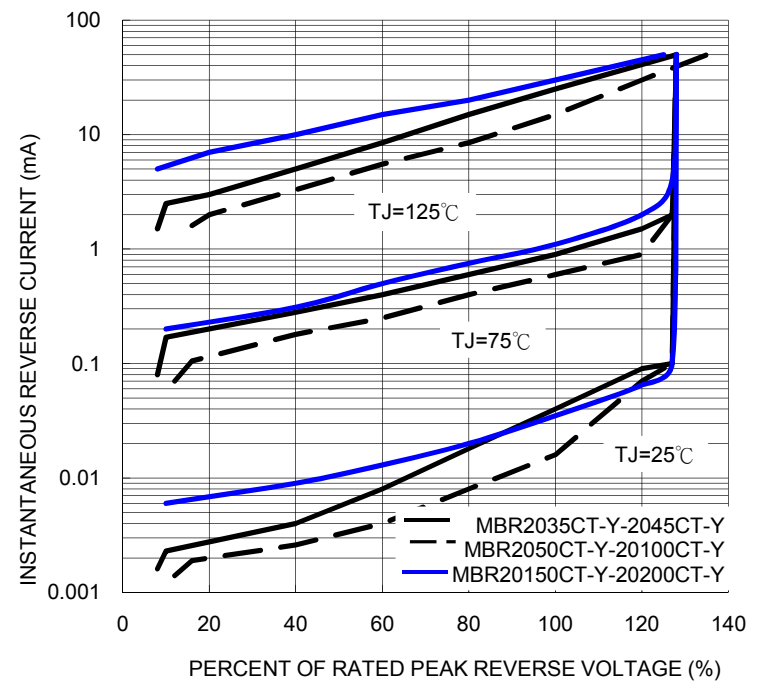


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

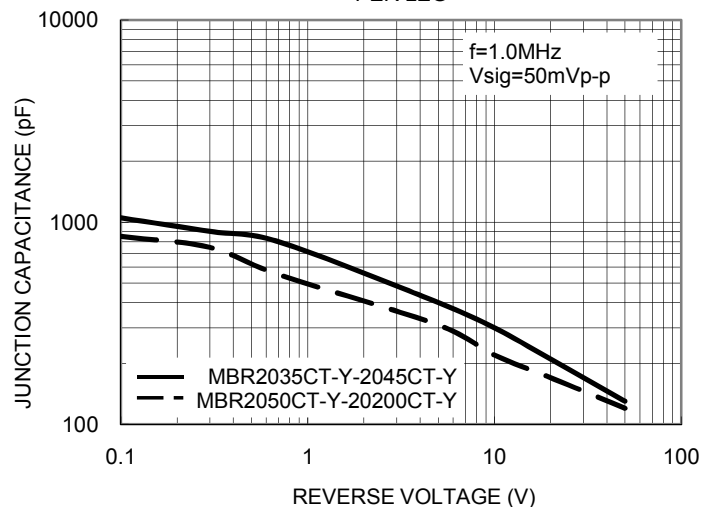
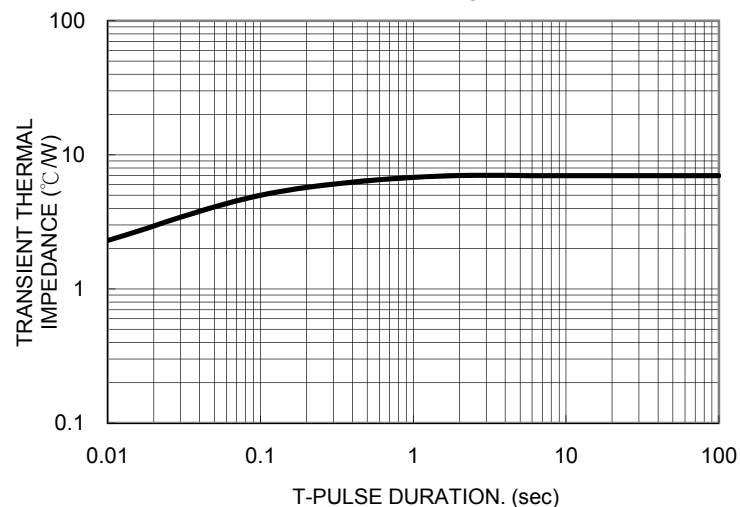
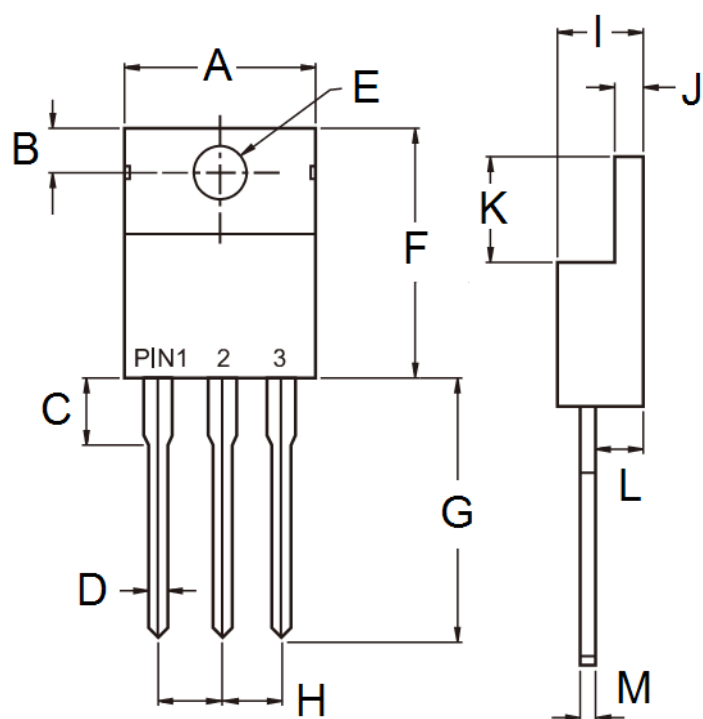


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



## PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | -         | 10.50 | -           | 0.413 |
| B    | 2.62      | 3.44  | 0.103       | 0.135 |
| C    | 2.80      | 4.20  | 0.110       | 0.165 |
| D    | 0.68      | 0.94  | 0.027       | 0.037 |
| E    | 3.54      | 4.00  | 0.139       | 0.157 |
| F    | 14.60     | 16.00 | 0.575       | 0.630 |
| G    | 13.19     | 14.79 | 0.519       | 0.582 |
| H    | 2.41      | 2.67  | 0.095       | 0.105 |
| I    | 4.42      | 4.76  | 0.174       | 0.187 |
| J    | 1.14      | 1.40  | 0.045       | 0.055 |
| K    | 5.84      | 6.86  | 0.230       | 0.270 |
| L    | 2.20      | 2.80  | 0.087       | 0.110 |
| M    | 0.35      | 0.64  | 0.014       | 0.025 |

## MARKING DIAGRAM



P/N = Marking Code  
G = Green Compound  
YWW = Date Code  
F = Factory Code

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