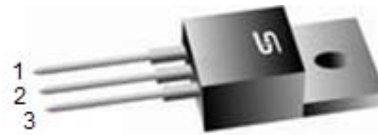
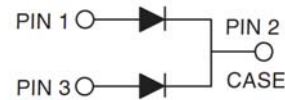


## Dual Common Cathode Schottky Rectifier

### 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 - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test,

with prefix "H" on packing code meet JESD 201 class 2 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 | 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 | UNIT |
| 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 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.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE  | PACKING   |
| MBR20xxCT            | Prefix "H"         | C0           | Suffix "G"          | TO-220AB | 50 / Tube |

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

| EXAMPLE       |           |                    |              |                     |                    |
|---------------|-----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO.  | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| MBR2060CT C0  | MBR2060CT |                    | C0           |                     |                    |
| MBR2060CT C0G | MBR2060CT |                    | C0           | G                   | Green compound     |
| MBR2060CTHC0  | MBR2060CT | H                  | C0           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- FORWARD CURRENT DERATING CURVE

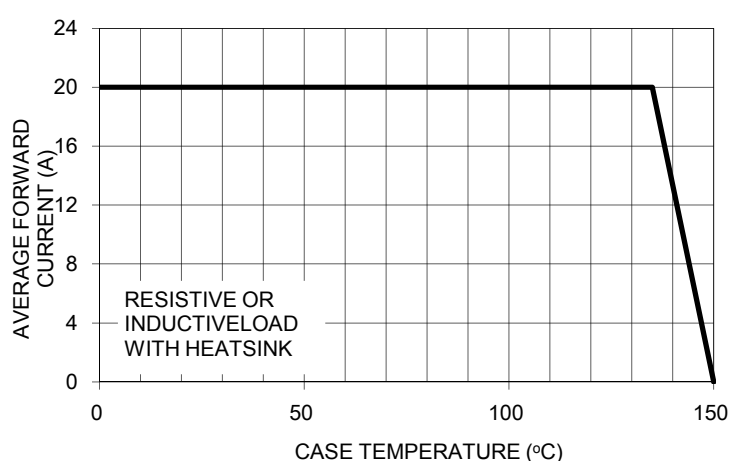


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

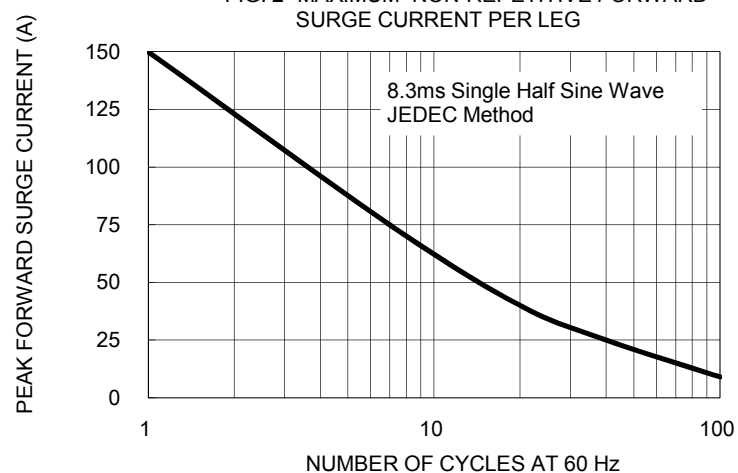


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

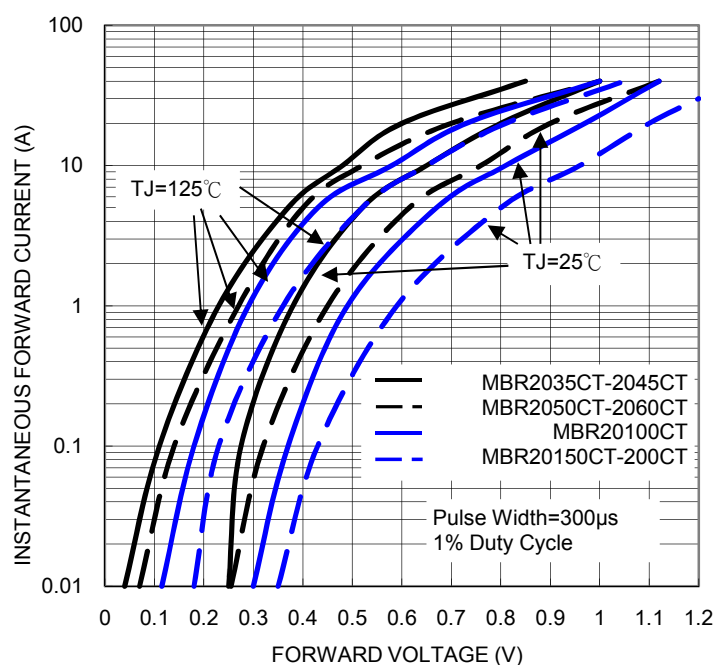


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

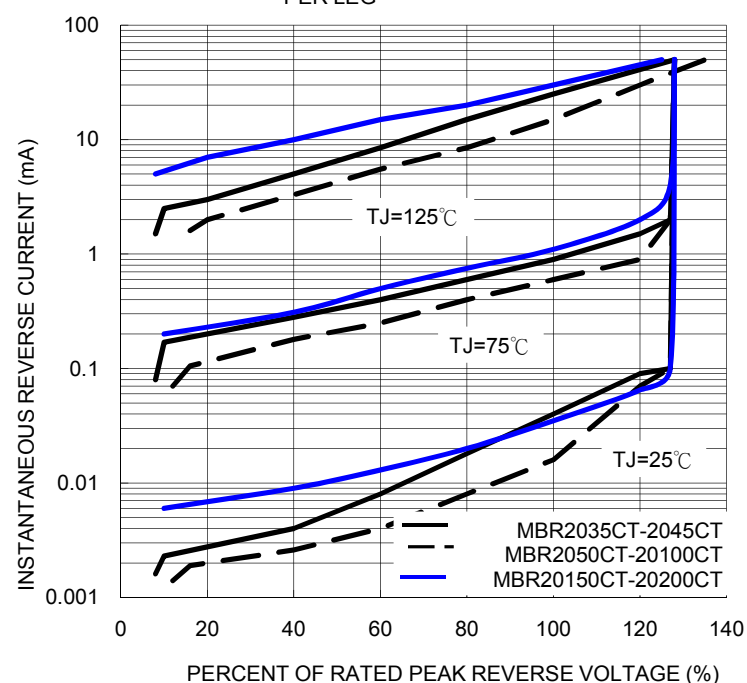


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

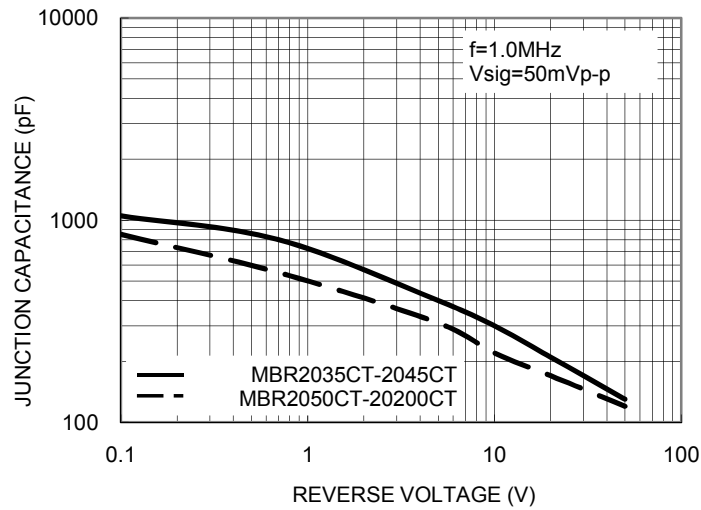
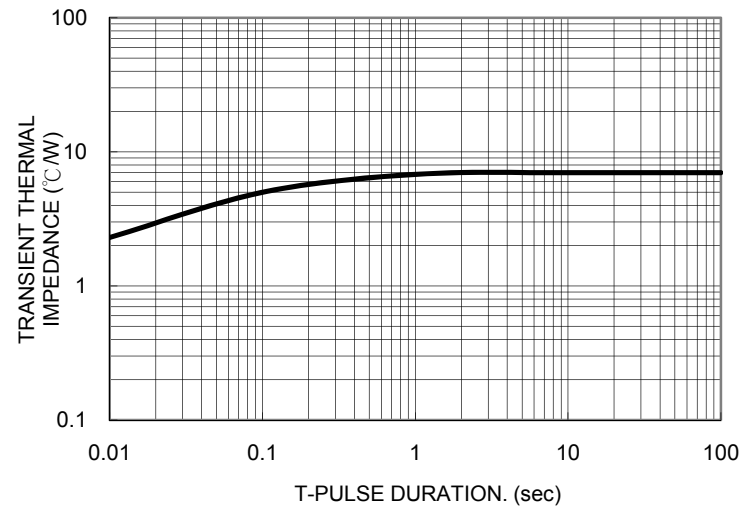
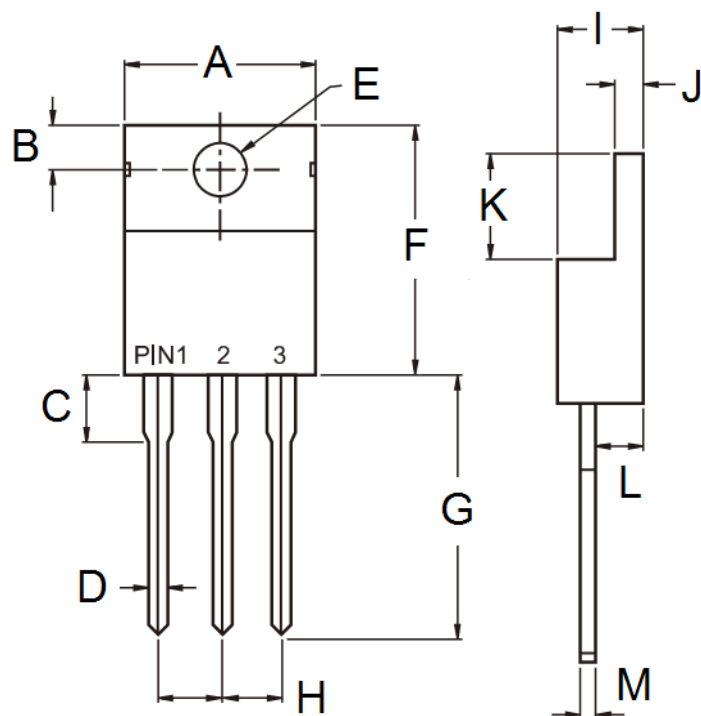


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



## 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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