

## 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℃ unless otherwise noted)                                                                                                                                      |                    |                              |                              |                 |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------|------------------------------|-----------------|------|
| PARAMETER                                                                                                                                                                                                                        | SYMBOL             | MBR<br>10H100CT              | MBR<br>10H150CT              | MBR<br>10H200CT | UNIT |
| Maximum repetitive peak reverse voltage                                                                                                                                                                                          | V <sub>RRM</sub>   | 100                          | 150                          | 200             | V    |
| Maximum RMS voltage                                                                                                                                                                                                              | V <sub>RMS</sub>   | 70                           | 105                          | 140             | V    |
| Maximum DC blocking voltage                                                                                                                                                                                                      | V <sub>DC</sub>    | 100                          | 150                          | 200             | V    |
| Maximum average forward rectified current                                                                                                                                                                                        | I <sub>F(AV)</sub> | 10                           |                              |                 | A    |
| Peak repetitive forward current<br>(Rated VR, Square Wave, 20KHz)                                                                                                                                                                | I <sub>FRM</sub>   | 10                           |                              |                 | A    |
| Peak forward surge current, 8.3 ms single half<br>sine-wave superimposed on rated load                                                                                                                                           | I <sub>FSM</sub>   | 120                          |                              |                 | A    |
| Peak repetitive reverse surge current (Note 1)                                                                                                                                                                                   | I <sub>RRM</sub>   | 1.0                          |                              | 0.5             | A    |
| Maximum instantaneous forward voltage (Note 2)<br>I <sub>F</sub> = 5A, T <sub>J</sub> =25℃<br>I <sub>F</sub> = 5A, T <sub>J</sub> =125℃<br>I <sub>F</sub> =10A, T <sub>J</sub> =25℃<br>I <sub>F</sub> =10A, T <sub>J</sub> =125℃ | V <sub>F</sub>     | 0.85<br>0.75<br>0.95<br>0.85 | 0.88<br>0.75<br>0.97<br>0.85 |                 | V    |
| Maximum reverse current @ rated VR<br>T <sub>J</sub> =25 ℃<br>T <sub>J</sub> =125 ℃                                                                                                                                              | I <sub>R</sub>     | 5<br>1                       |                              |                 |      |
|                                                                                                                                                                                                                                  |                    |                              |                              |                 | μA   |
|                                                                                                                                                                                                                                  |                    |                              |                              |                 | mA   |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                                                                                                                   | dV/dt              | 10000                        |                              |                 | V/μs |
| Typical thermal resistance                                                                                                                                                                                                       | R <sub>θJC</sub>   | 1.5                          |                              |                 | ℃/W  |
| Operating junction temperature range                                                                                                                                                                                             | T <sub>J</sub>     | - 55 to +175                 |                              |                 | ℃    |
| Storage temperature range                                                                                                                                                                                                        | T <sub>STG</sub>   | - 55 to +175                 |                              |                 | ℃    |

Note 1: tp = 2.0 μs, 1.0KHz

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

**ORDERING INFORMATION**

| PART NO.              | AEC-Q101<br>QUALIFIED | PACKING CODE | GREEN COMPOUND<br>CODE | PACKAGE  | PACKING   |
|-----------------------|-----------------------|--------------|------------------------|----------|-----------|
| MBR10HxxxCT<br>(Note) | Prefix "H"            | C0           | Suffix "G"             | TO-220AB | 50 / Tube |

Note 1: "xxx" defines voltage from 100V (MBR10H100CT) to 200V (MBR10H200CT)

**EXAMPLE**

| PREFERRED P/N   | PART NO.    | AEC-Q101<br>QUALIFIED | PACKING CODE | GREEN COMPOUND<br>CODE | DESCRIPTION        |
|-----------------|-------------|-----------------------|--------------|------------------------|--------------------|
| MBR10H100CT C0  | MBR10H100CT |                       | C0           |                        |                    |
| MBR10H100CT C0G | MBR10H100CT |                       | C0           | G                      | Green compound     |
| MBR10H100CTHC0  | MBR10H100CT | H                     | C0           |                        | AEC-Q101 qualified |

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG.1- FORWARD CURRENT DERATING CURVE

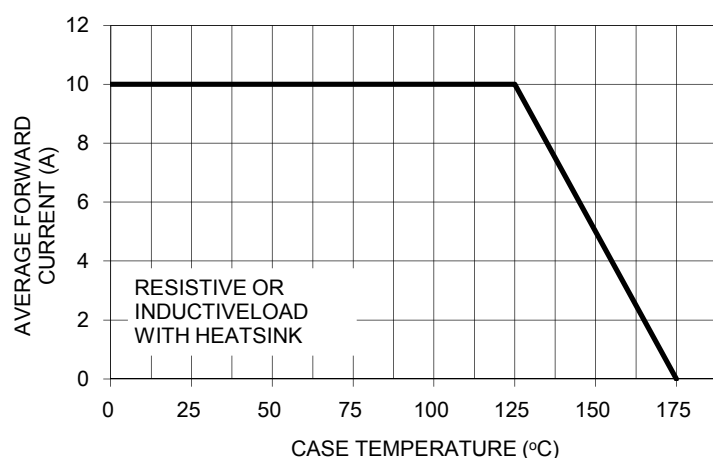


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

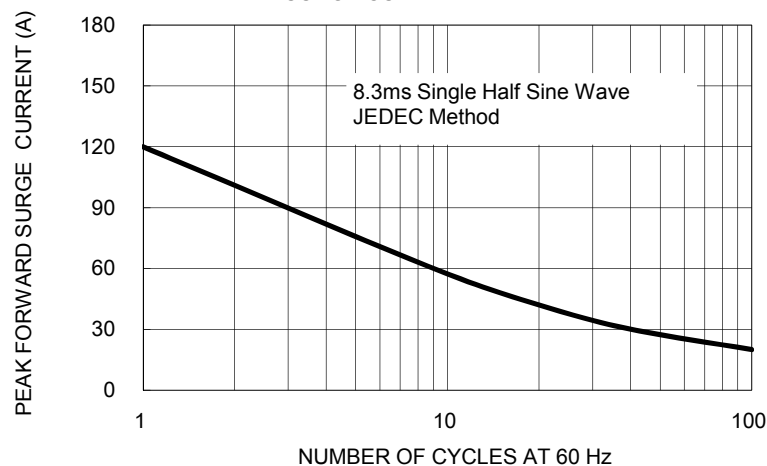


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

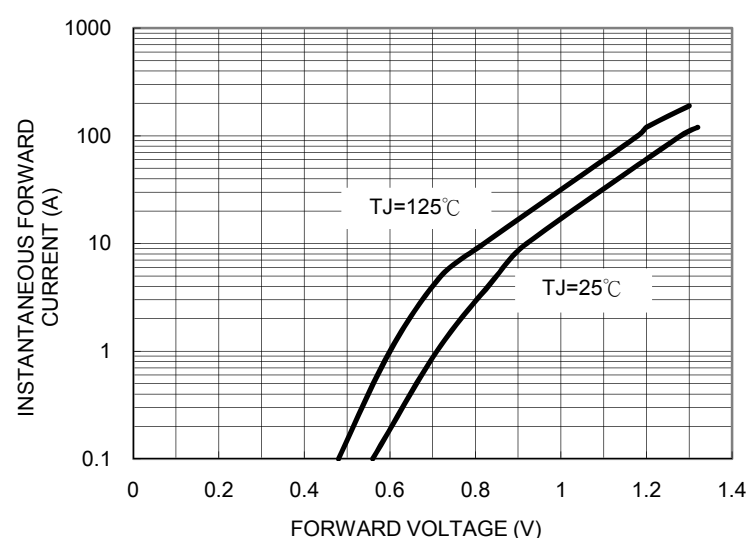


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

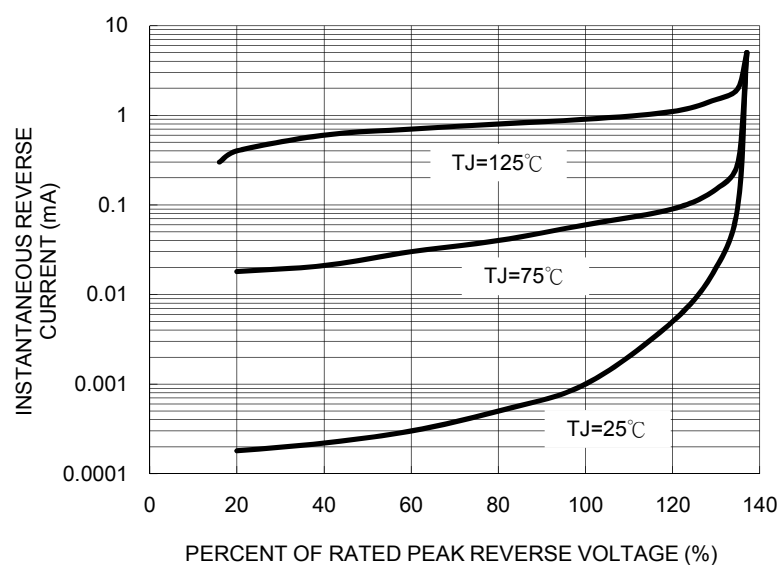


FIG. 5- TYPICAL JUNCTION CAPACITANCE

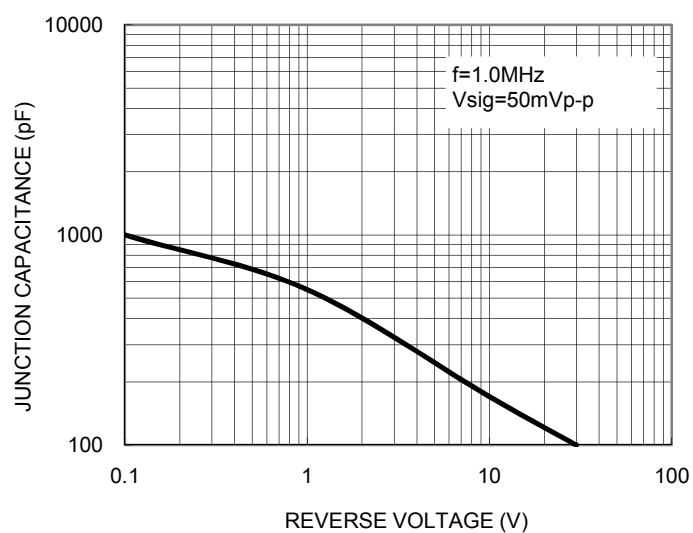
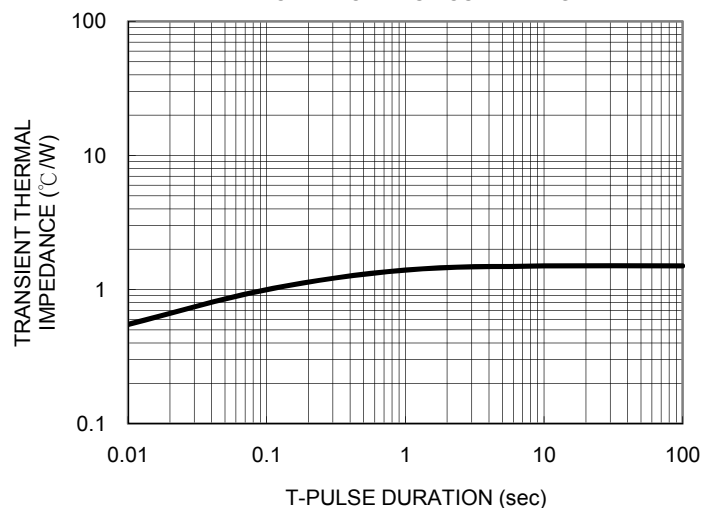
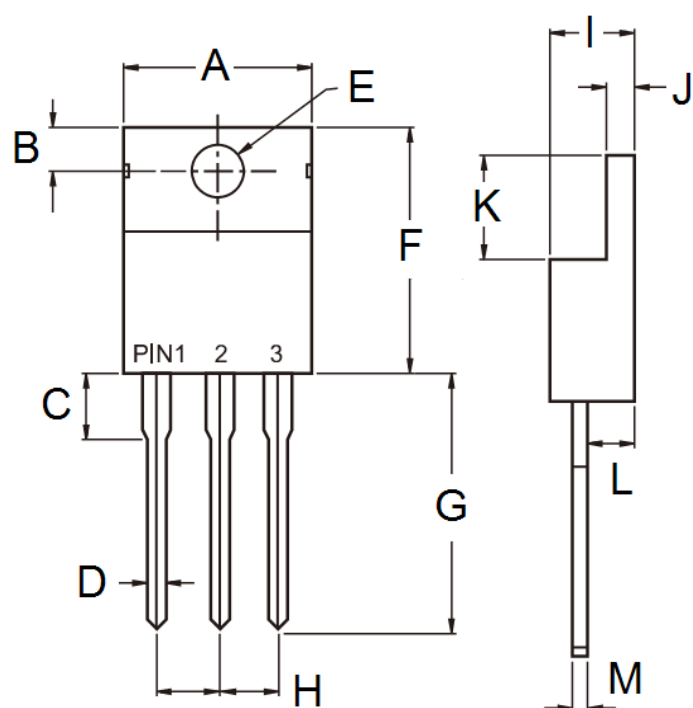


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

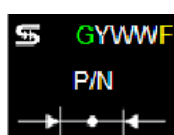


## PACKAGE OUTLINE DIMENSIONS



| 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 = Specific Device Code  
G = Green Compound  
YWW = Date Code  
F = Factory Code

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