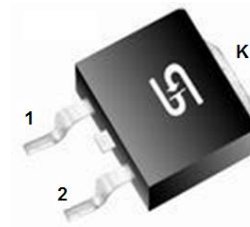
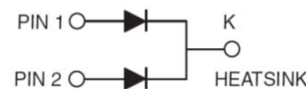


## Dual Common Cathode Schottky Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guardring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- 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-263AB (D<sup>2</sup>PAK)**


### MECHANICAL DATA

**Case:** TO-263AB (D<sup>2</sup>PAK)

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

**Weight:** 1.4 g (approximately)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER  | SYMBOL             | MBRS<br>20H100CT             | MBRS<br>20H150CT             | MBRS<br>20H200CT | 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> | 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>     | 0.85<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 °C<br>T <sub>J</sub> =125 °C  | I <sub>R</sub>     | 5                            |                              |                  | μA   |
|  |                    | 2                            |                              |                  | mA   |
| Voltage rate of change (Rated V <sub>R</sub> )   | dV/dt              | 10000                        |                              |                  | V/μs |
| Typical thermal resistance   | R <sub>θJC</sub>   | 1.5                          |                              |                  | °C/W |
| Operating junction temperature range   | T <sub>J</sub>     | - 55 to +175                 |                              |                  | °C   |
| Storage temperature range  | T <sub>STG</sub>   | - 55 to +175                 |                              |                  | °C   |

Note 1: t<sub>p</sub> = 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              |
| MBRS20HxxxCT<br>(Note 1) | Prefix "H"         | RN           | Suffix "G"          | D <sup>2</sup> PAK | 800 / 13" Paper reel |
|                          |                    | C0           |                     | D <sup>2</sup> PAK | 50 / Tube            |

Note 1: "xx" defines voltage from 100V (MBRS20H100CT) to 200V (MBRS20H200CT)

| EXAMPLE          |              |                    |              |                     |                    |
|------------------|--------------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N    | PART NO.     | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| MBRS20H100CT RN  | MBRS20H100CT |                    | RN           |                     |                    |
| MBRS20H100CT RNG | MBRS20H100CT |                    | RN           | G                   | Green compound     |
| MBRS20H100CTHRN  | MBRS20H100CT | H                  | RN           |                     | AEC-Q101 qualified |

### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

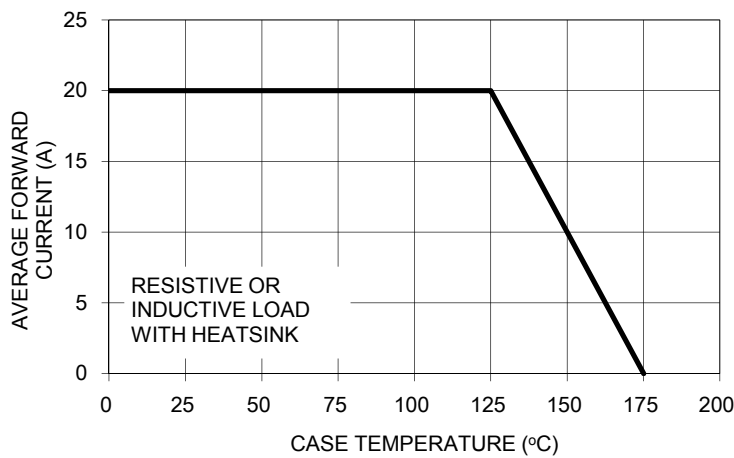


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

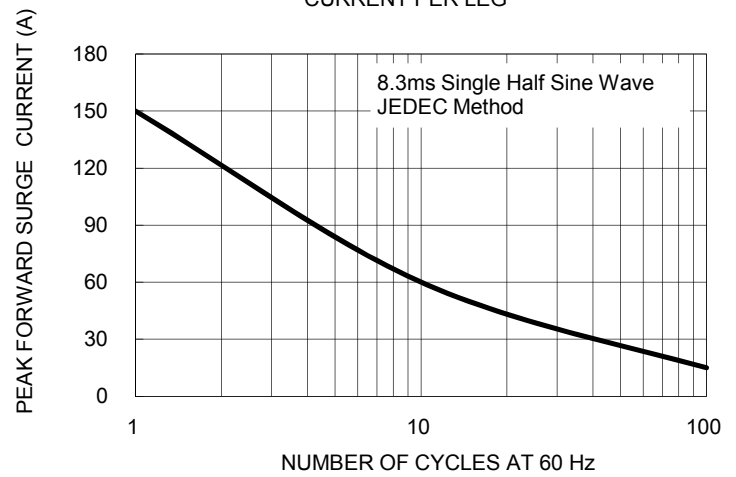


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

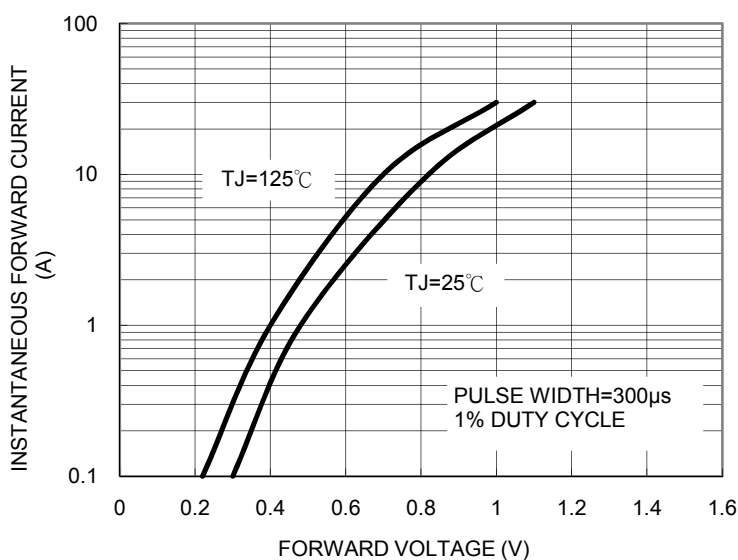


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

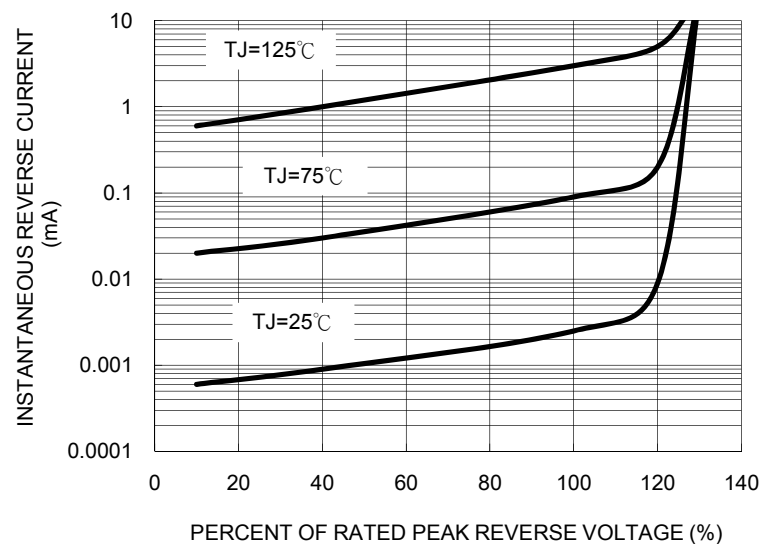


FIG. 5 TYPICAL JUNCTION CAPACITANCE

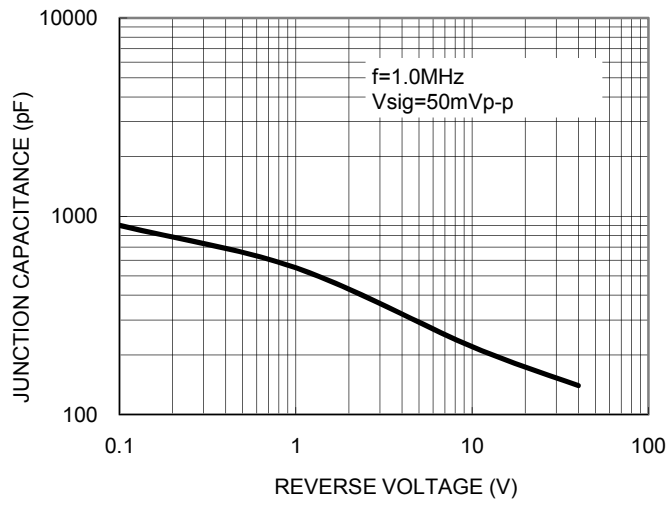
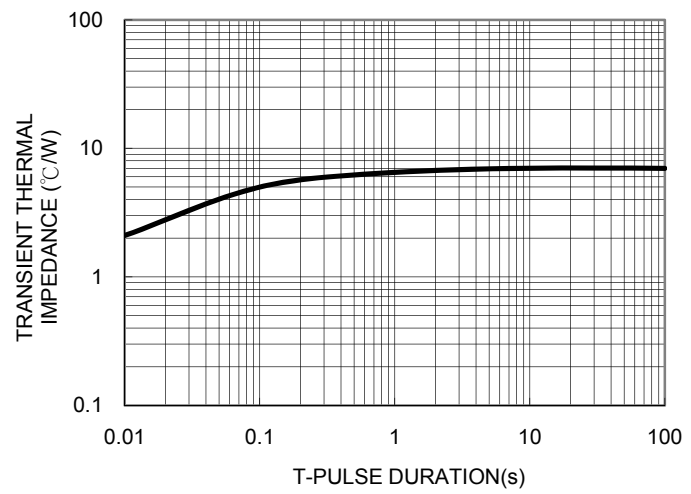
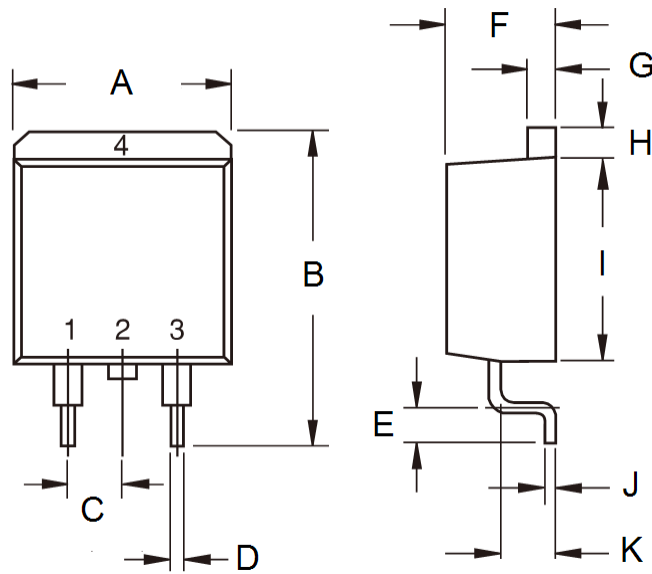


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

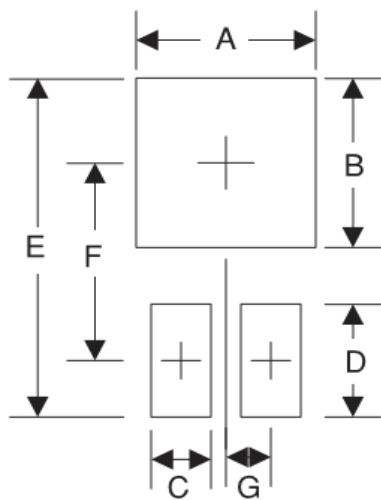


PACKAGE OUTLINE DIMENSIONS



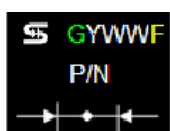
| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | -         | 10.5  | -           | 0.413 |
| B    | 14.60     | 15.88 | 0.575       | 0.625 |
| C    | 2.41      | 2.67  | 0.095       | 0.105 |
| D    | 0.68      | 0.94  | 0.027       | 0.037 |
| E    | 2.29      | 2.79  | 0.090       | 0.110 |
| F    | 4.44      | 4.70  | 0.175       | 0.185 |
| G    | 1.14      | 1.40  | 0.045       | 0.055 |
| H    | 1.14      | 1.40  | 0.045       | 0.055 |
| I    | 8.25      | 9.25  | 0.325       | 0.364 |
| J    | 0.36      | 0.53  | 0.014       | 0.021 |
| K    | 2.03      | 2.79  | 0.080       | 0.110 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 10.8      | 0.425       |
| B      | 8.3       | 0.327       |
| C      | 1.1       | 0.043       |
| D      | 3.5       | 0.138       |
| E      | 16.9      | 0.665       |
| F      | 9.5       | 0.374       |
| G      | 2.5       | 0.098       |

MARKING DIAGRAM



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

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