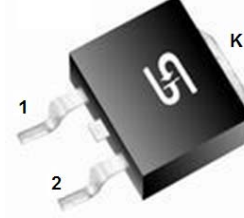
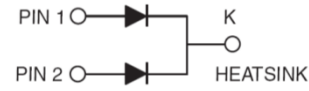


- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**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:** 1.37 g (approximately)

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

| PARAMETER  | SYMBOL             | MBRS<br>2035<br>CT           | MBRS<br>2045<br>CT           | MBRS<br>2050<br>CT | MBRS<br>2060<br>CT           | MBRS<br>2090<br>CT | MBRS<br>2010<br>CT |  |
|--|--------------------|------------------------------|------------------------------|--------------------|------------------------------|--------------------|--------------------|--|
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>   | 35                           | 45                           | 50                 | 60                           | 90                 | 100                |  |
| Maximum RMS voltage  | V <sub>RMS</sub>   | 24                           | 31                           | 35                 | 42                           | 63                 | 70                 |  |
| Maximum DC blocking voltage  | V <sub>DC</sub>    | 35                           | 45                           | 50                 | 60                           | 90                 | 100                |  |
| Maximum average forward rectified current  | I <sub>F(AV)</sub> | 20                           |                              |                    |                              |                    |                    |  |
| Peak repetitive forward current<br>(Rated VR, Square wave, 20KHz)  | I <sub>FRM</sub>   | 20                           |                              |                    |                              |                    |                    |  |
| Peak forward surge current, 8.3 ms single half sine-wave<br>superimposed on rated load   | I <sub>FSM</sub>   | 150                          |                              |                    |                              |                    |                    |  |
| Peak repetitive reverse surge current (Note 1)   | I <sub>RRM</sub>   | 1                            |                              | 0.5                |                              |                    |                    |  |
| 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>     | 0.65<br>0.57<br>0.84<br>0.72 | 0.80<br>0.70<br>0.95<br>0.85 |                    | 0.85<br>0.75<br>0.95<br>0.85 |                    |                    |  |
| Maximum reverse current @ rated VR<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125 °C  | I <sub>R</sub>     | 0.1                          |                              |                    |                              |                    |                    |  |
|  |                    | 15                           | 10                           |                    | 5                            |                    |                    |  |
| Voltage rate of change (Rated V <sub>R</sub> )   | dV/dt              | 10000                        |                              |                    |                              |                    |                    |  |
| Typical thermal resistance   | R <sub>θJC</sub>   | 1.5                          |                              |                    |                              | 2                  |                    |  |
| Operating junction temperature range   | T <sub>J</sub>     | - 55 to +150                 |                              |                    |                              |                    |                    |  |
| Storage temperature range  | T <sub>STG</sub>   | - 55 to +150                 |                              |                    |                              |                    |                    |  |

Note 1: tp = 2.0 μs, 1.0KHz

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

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EXAMPLE

| PREFERRED P/N  | PART NO.   | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | D  |
|----------------|------------|--------------------|--------------|---------------------|----|
| MBRS2060CT RN  | MBRS2060CT |                    | RN           |                     |    |
| MBRS2060CT RNG | MBRS2060CT |                    | RN           | G                   | C  |
| MBRS2060CTHRN  | MBRS2060CT | H                  | RN           |                     | AD |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

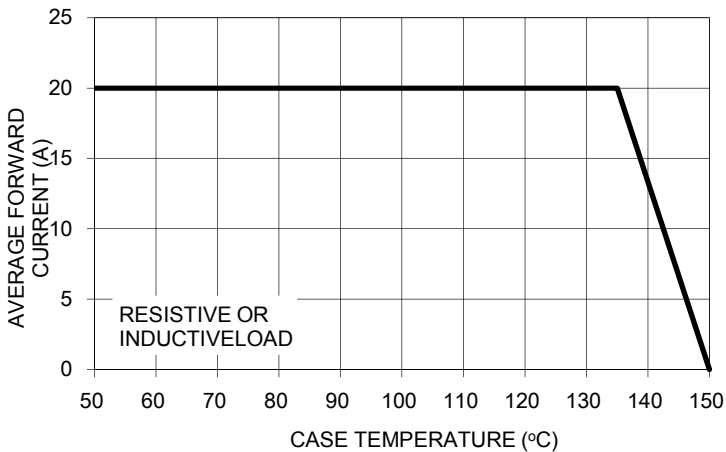


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

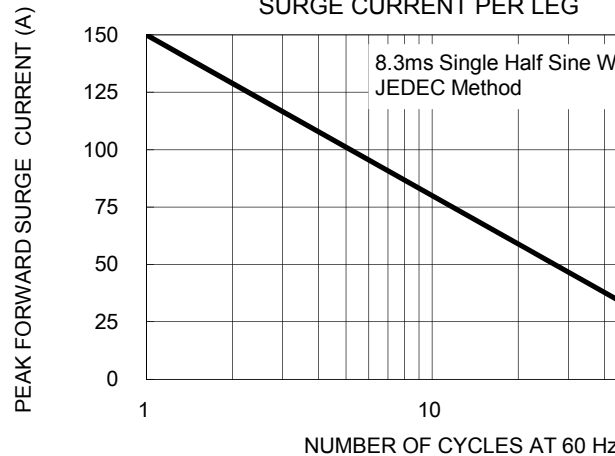


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

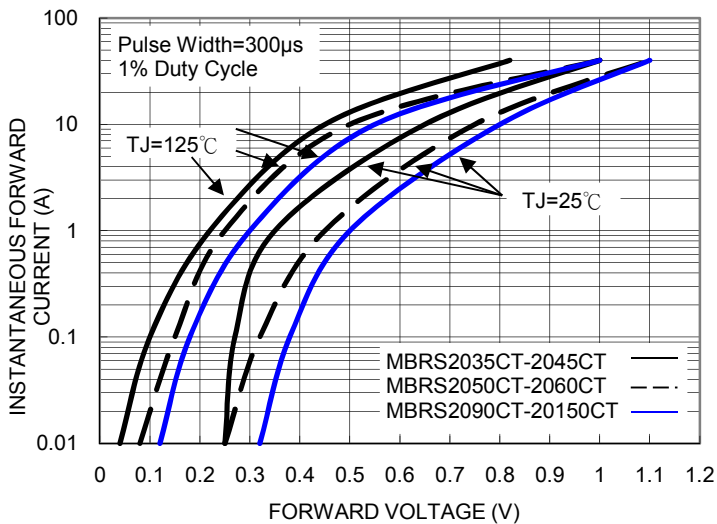
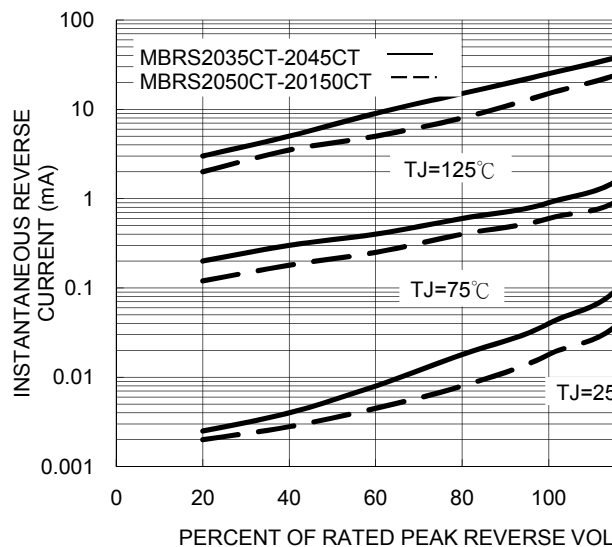
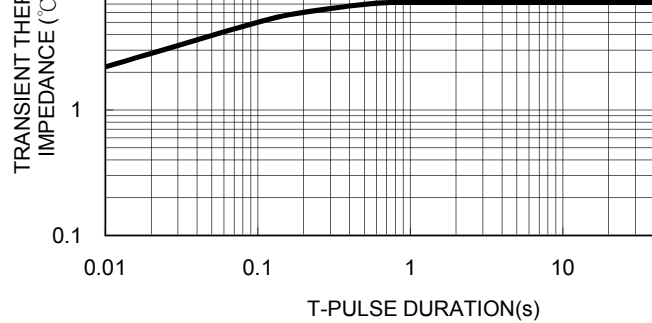
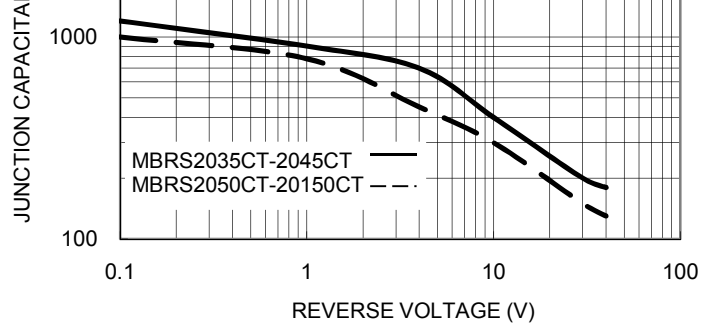
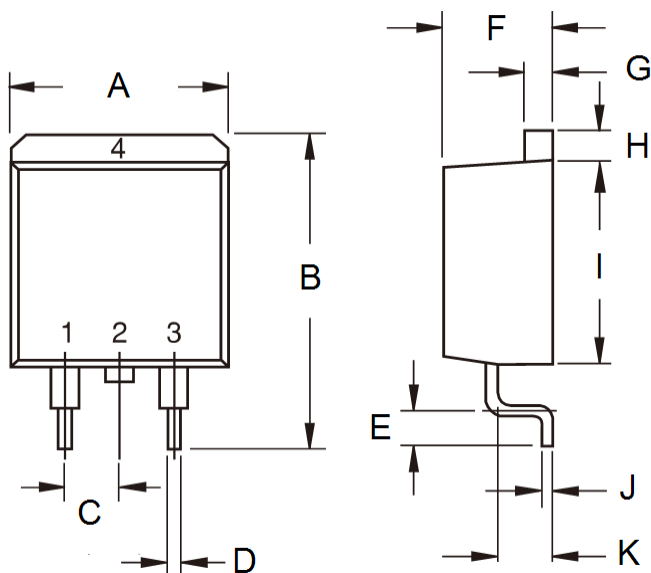


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



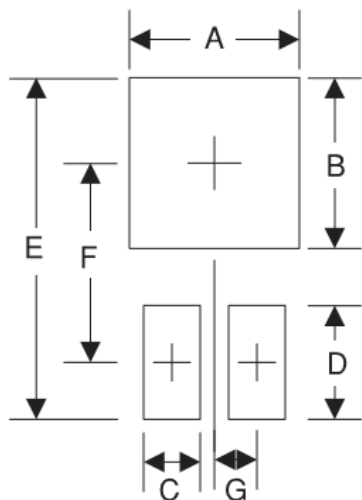


### PACKAGE OUTLINE DIMENSIONS



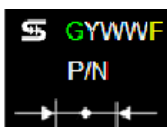
| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | -         | 10.5  | -           | 0.413 |
| B    | 14.60     | 15.88 | 0.575       | 0.625 |
| C    | 2.41      | 2.67  | 0.095       | 0.105 |
| 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
- YW = Date Code
- F = Factory Code

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