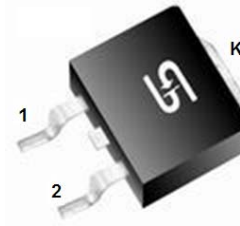
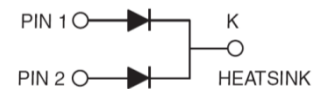


## 15A, 45V - 200V Dual Common Cathode Schottky Rectifiers

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- 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


**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

Moisture sensitivity level: level 1, per J-STD-020

Packing code with suffix "G" means green compound (halogen-free)

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

Meet JESD 201 class 1A 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>1545<br>CT-Y      | MBRS<br>1560<br>CT-Y   | MBRS<br>15100<br>CT-Y  | MBRS<br>15150<br>CT-Y  | MBRS<br>15200<br>CT-Y | Unit |
| Marking code                                                                                                                                                                                                                                   |                    | MBRS<br>1545CT            | MBRS<br>1560CT         | MBRS<br>15100CT        | MBRS<br>15150CT        | MBRS<br>15200CT       |      |
| Maximum repetitive peak reverse voltage                                                                                                                                                                                                        | V <sub>RRM</sub>   | 45                        | 60                     | 100                    | 150                    | 200                   | V    |
| Maximum RMS voltage                                                                                                                                                                                                                            | V <sub>RMS</sub>   | 31                        | 42                     | 70                     | 105                    | 140                   | V    |
| Maximum DC blocking voltage                                                                                                                                                                                                                    | V <sub>DC</sub>    | 45                        | 60                     | 100                    | 150                    | 200                   | V    |
| Maximum average forward rectified current                                                                                                                                                                                                      | I <sub>F(AV)</sub> | 15                        |                        |                        |                        |                       | A    |
| Peak repetitive forward current<br>(Rated VR, Square wave, 20KHz)                                                                                                                                                                              | I <sub>FRM</sub>   | 15                        |                        |                        |                        |                       | 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> = 7.5 A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 7.5 A, T <sub>J</sub> =125°C<br>I <sub>F</sub> = 15 A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 15 A, T <sub>J</sub> =125°C | V <sub>F</sub>     | -<br>0.57<br>0.84<br>0.72 | 0.75<br>0.65<br>-<br>- | 0.92<br>0.82<br>-<br>- | 0.95<br>0.92<br>-<br>- |                       | V    |
| Maximum reverse current @ rated V <sub>R</sub><br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C                                                                                                                                                | I <sub>R</sub>     | 0.1                       |                        |                        |                        |                       | mA   |
|                                                                                                                                                                                                                                                |                    | 15                        | 10                     | 5                      |                        |                       |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                                                                                                                                 | dV/dt              | 10000                     |                        |                        |                        |                       | V/μs |
| Typical thermal resistance                                                                                                                                                                                                                     | R <sub>θJC</sub>   | 2                         |                        |                        |                        |                       | °C/W |
|                                                                                                                                                                                                                                                | R <sub>θJA</sub>   | 50                        |                        |                        |                        |                       |      |
| 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 | PACKING CODE SUFFIX (*) | PACKAGE            | PACKING                |
| MBRS15xxCT-Y<br>(Note 1) | RN           | G                       | D <sup>2</sup> PAK | 800 / 13" Paper reel   |
|                          | MN           |                         |                    | 800 / 13" Plastic reel |

Note 1: "xx" defines voltage from 45V (MBRS1545CT-Y) to 200V (MBRS15200CT-Y)  
\*: Optional available

| EXAMPLE          |              |              |                     |                |
|------------------|--------------|--------------|---------------------|----------------|
| PREFERRED P/N    | PART NO.     | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION    |
| MBRS1560CT-Y RNG | MBRS1560CT-Y | RN           | G                   | Green compound |

### RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

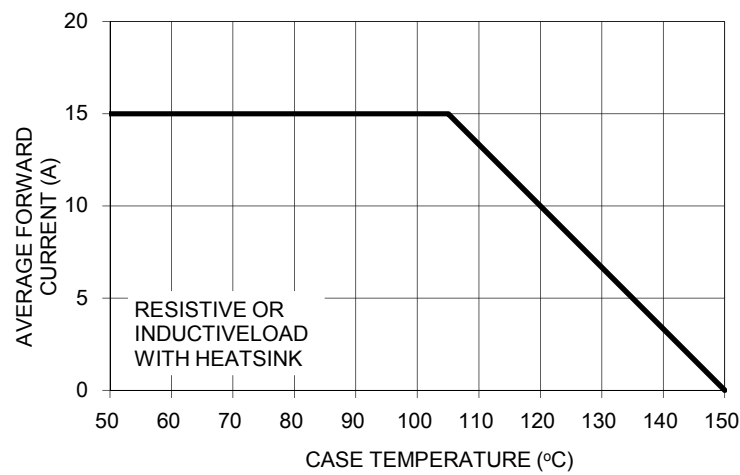


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG



FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

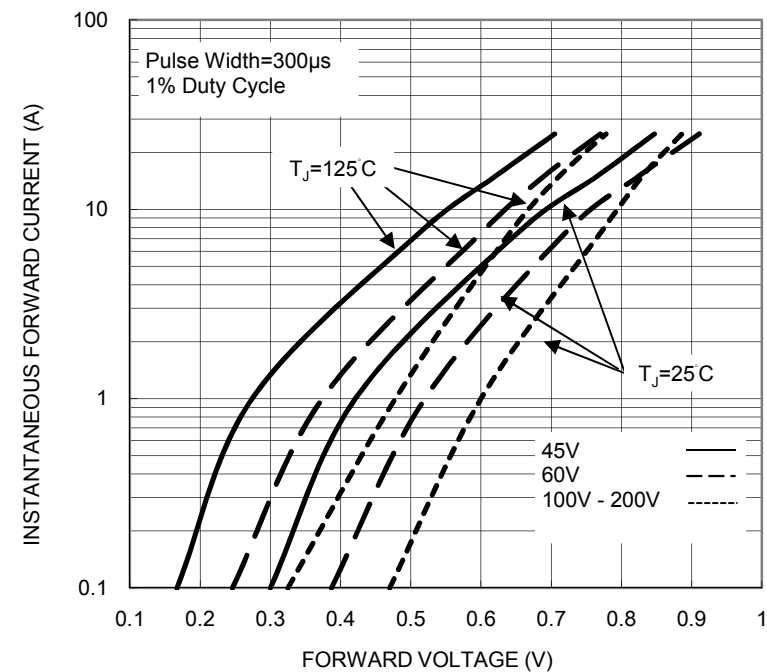


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

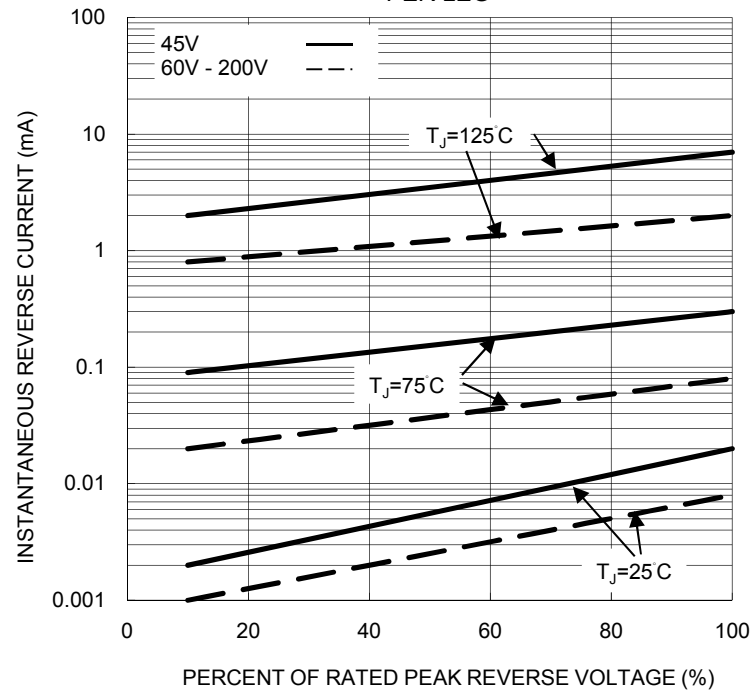


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

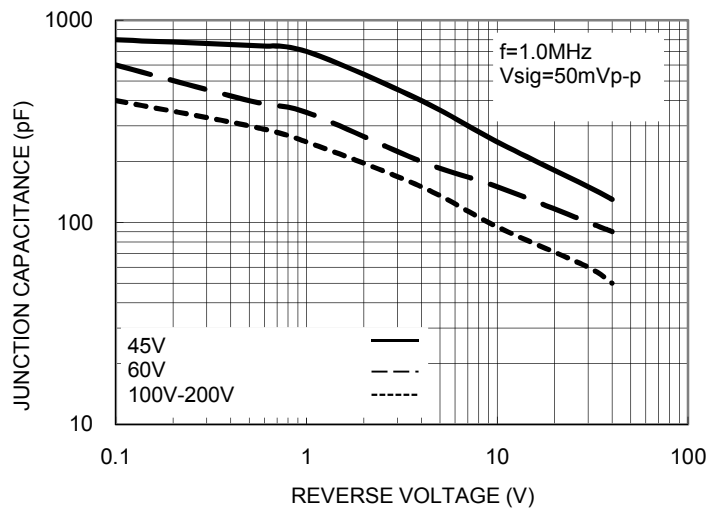
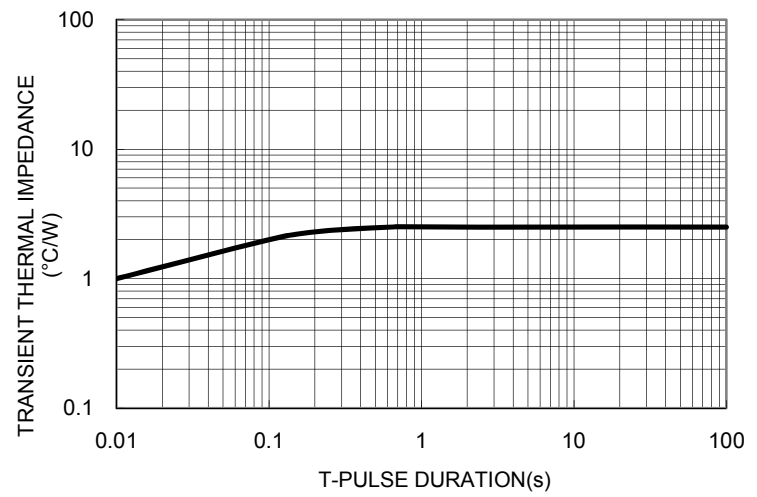
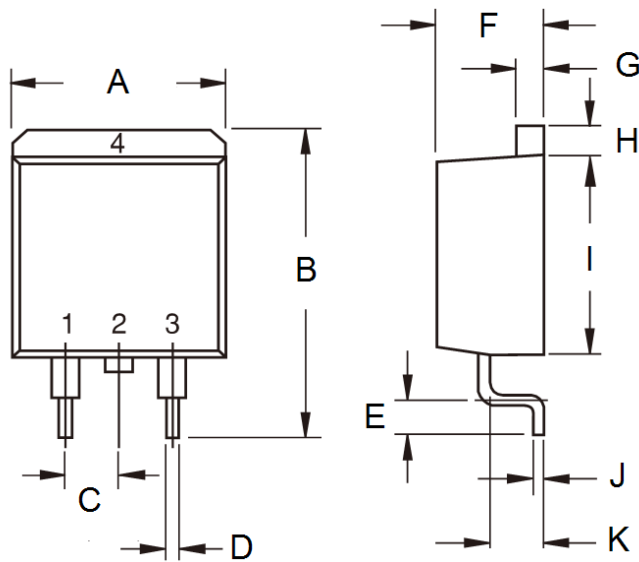


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



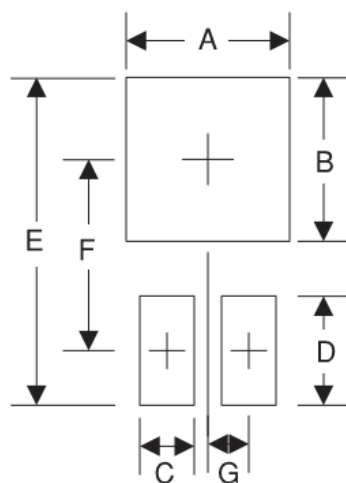
## PACKAGE OUTLINE DIMENSIONS

### TO-263AB (D<sup>2</sup>PAK)



| 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 = Marking Code  
 G = Green Compound  
 YWW = Date Code  
 F = Factory Code

### **Notice**

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.