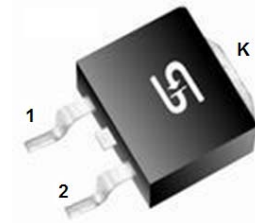


## 20A, 100V - 200V Dual Common Cathode Schottky Rectifiers

### 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 definition



### 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

Part no. with suffix "H" means AEC-Q101 qualified

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

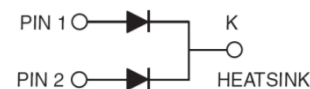
**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Weight:** 1.4 g (approximately)

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



| 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 V <sub>R</sub><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: tp = 2.0 μs, 1.0KHz

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

| ORDERING INFORMATION     |                 |              |                                    |                    |                        |
|--------------------------|-----------------|--------------|------------------------------------|--------------------|------------------------|
| PART NO.                 | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX <sup>(*)</sup> | PACKAGE            | PACKING                |
| MBRS20HxxxCT<br>(Note 1) | H               | RN           | G                                  | D <sup>2</sup> PAK | 800 / 13" Paper reel   |
|                          |                 | MN           |                                    |                    | 800 / 13" Plastic reel |

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

\*: Optional available

| EXAMPLE          |              |                 |              |                     |                                      |
|------------------|--------------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N    | PART NO.     | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| MBRS20H100CTHRNG | MBRS20H100CT | H               | RN           | G                   | AEC-Q101 qualified<br>Green compound |

### RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 FORWARD CURRENT DERATING CURVE

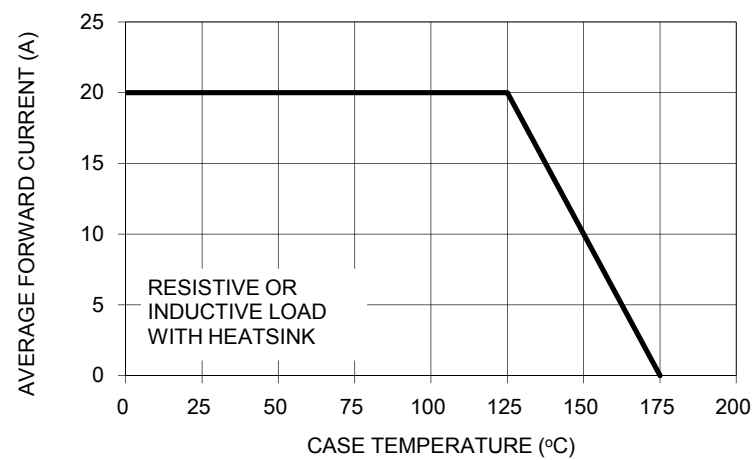


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

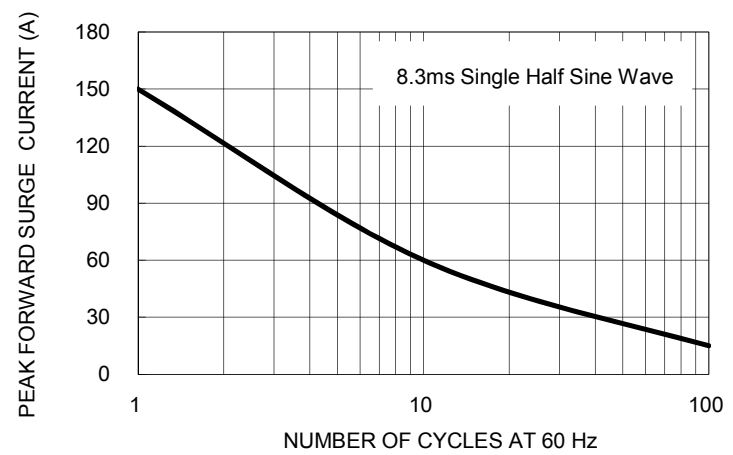


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

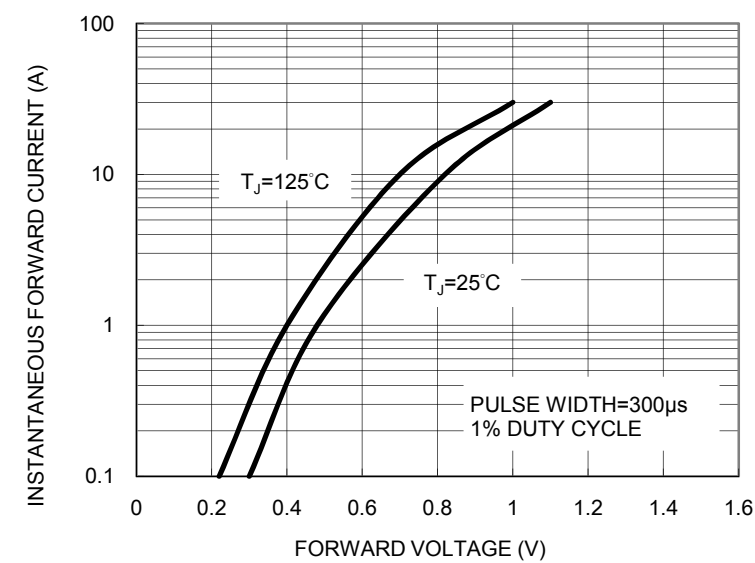


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

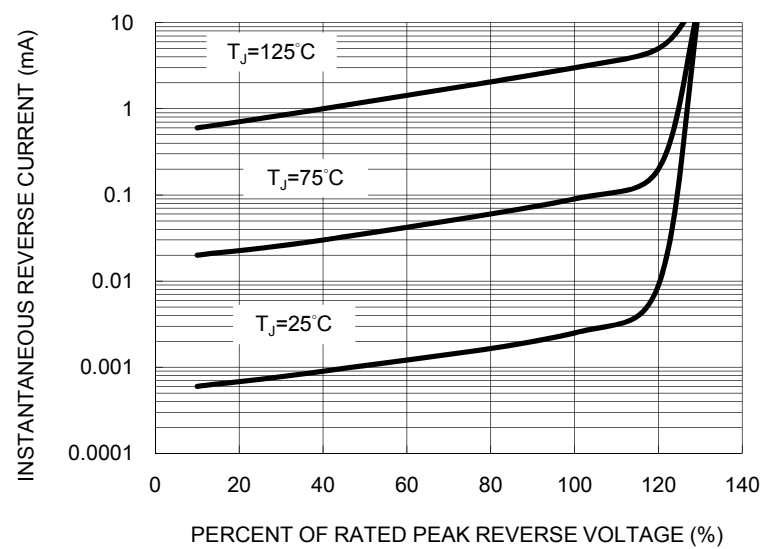


FIG. 5 TYPICAL JUNCTION CAPACITANCE

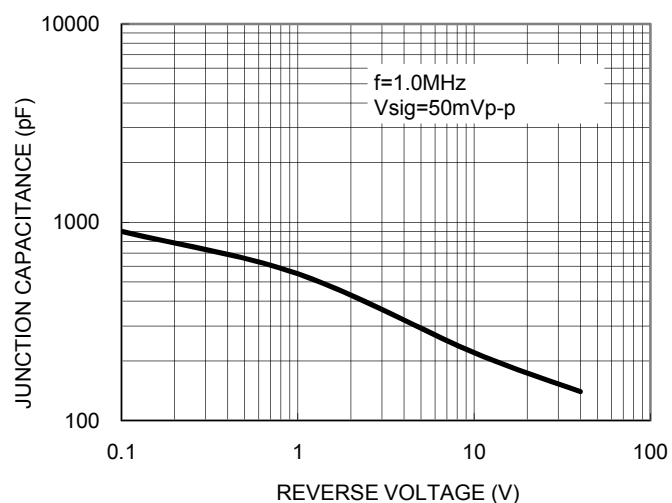
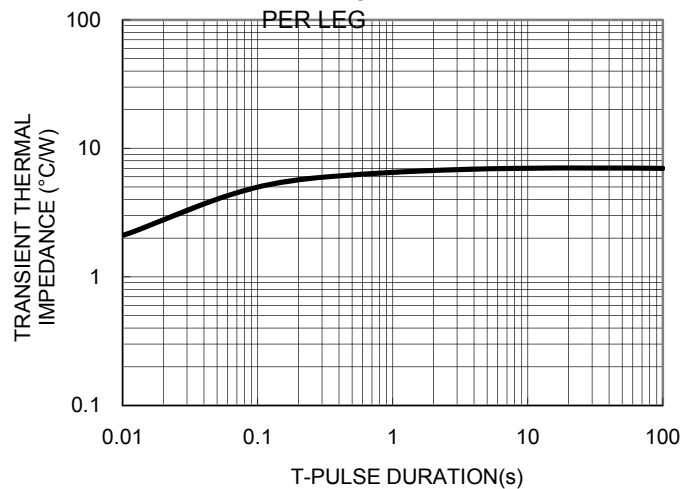
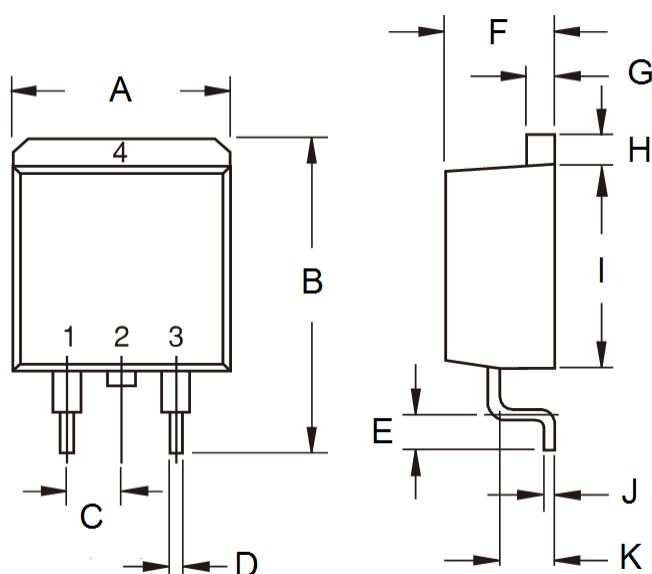


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

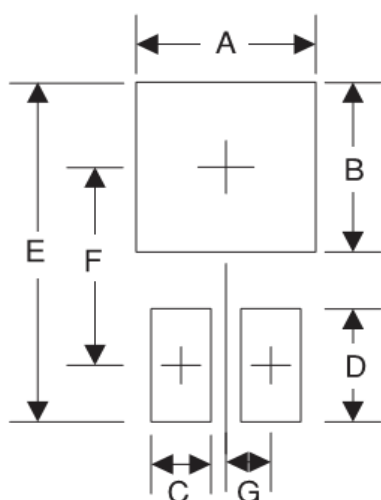


PACKAGE OUTLINE DIMENSIONS  
**TO-263AB (D<sup>2</sup>PAK)**



| 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 = Specific Device 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.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)