

## 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



### 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,

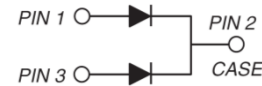
with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.9 g (approximately)

### TO-220AB



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                                              |                    |                |                |                 |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|----------------|-----------------|------|
| PARAMETER                                                                                                                                 | SYMBOL             | MBR<br>30L45CT | MBR<br>30L60CT | MBR<br>30L100CT | UNIT |
| Maximum repetitive peak reverse voltage                                                                                                   | V <sub>RRM</sub>   | 45             | 60             | 100             | V    |
| Maximum RMS voltage                                                                                                                       | V <sub>RMS</sub>   | 31             | 42             | 70              | V    |
| Maximum DC blocking voltage                                                                                                               | V <sub>DC</sub>    | 45             | 60             | 100             | V    |
| Maximum average forward rectified current                                                                                                 | I <sub>F(AV)</sub> | 30             |                |                 | A    |
| Peak repetitive forward current<br>(Rated V <sub>R</sub> , square wave, 20KHz)                                                            | I <sub>FRM</sub>   | 30             |                |                 | A    |
| Peak forward surge current, 8.3 ms single half<br>sine-wave superimposed on rated load                                                    | I <sub>FSM</sub>   | 220            |                |                 | A    |
| Peak repetitive reverse surge current (Note 1)                                                                                            | I <sub>RRM</sub>   | 1              |                |                 | A    |
| Maximum instantaneous forward voltage (Note 2)<br>I <sub>F</sub> =15A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =15A, T <sub>J</sub> =125°C | V <sub>F</sub>     | 0.55<br>0.50   | 0.60<br>0.56   | 0.77<br>0.67    | V    |
| Maximum reverse current @ Rated V <sub>R</sub> T <sub>J</sub> =25 °C<br>T <sub>J</sub> =100 °C                                            | I <sub>R</sub>     | 0.40<br>200    | 0.48<br>150    | 0.50<br>32      | mA   |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                            | dV/dt              | 10000          |                |                 | V/μs |
| Typical thermal resistance                                                                                                                | R <sub>θJC</sub>   | 1              |                |                 | °C/W |
| Operating junction temperature range                                                                                                      | T <sub>J</sub>     | - 55 to +150   |                |                 | °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.               | AEC-Q101<br>QUALIFIED | PACKING CODE | GREEN COMPOUND<br>CODE | PACKAGE  | PACKING   |
|------------------------|-----------------------|--------------|------------------------|----------|-----------|
| MBR30LxxCT<br>(Note 1) | Prefix "H"            | C0           | Suffix "G"             | TO-220AB | 50 / Tube |

Note 1: "xx" defines voltage from 45V (MBR30L45CT) to 100V (MBR30L100CT)

# EXAMPLE

| PREFERRED P/N   | PART NO.    | AEC-Q101<br>QUALIFIED | PACKING CODE | GREEN COMPOUND<br>CODE | DESCRIPTION        |
|-----------------|-------------|-----------------------|--------------|------------------------|--------------------|
| MBR30L100CT C0  | MBR30L100CT |                       | C0           |                        |                    |
| MBR30L100CT C0G | MBR30L100CT |                       | C0           | G                      | Green compound     |
| MBR30L100CTHC0  | MBR30L100CT | H                     | C0           |                        | AEC-Q101 qualified |

# RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

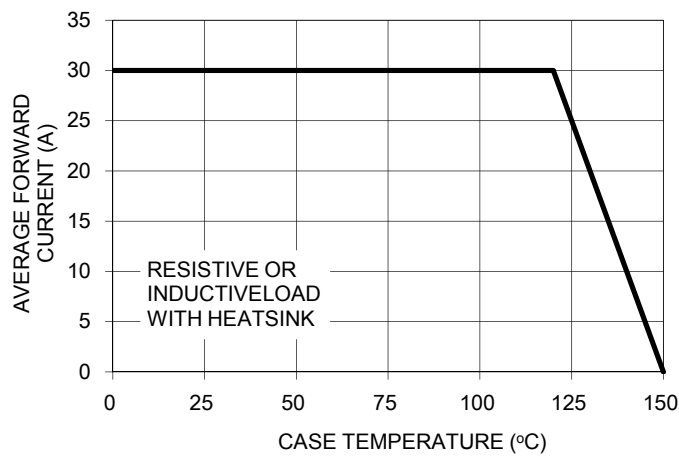


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

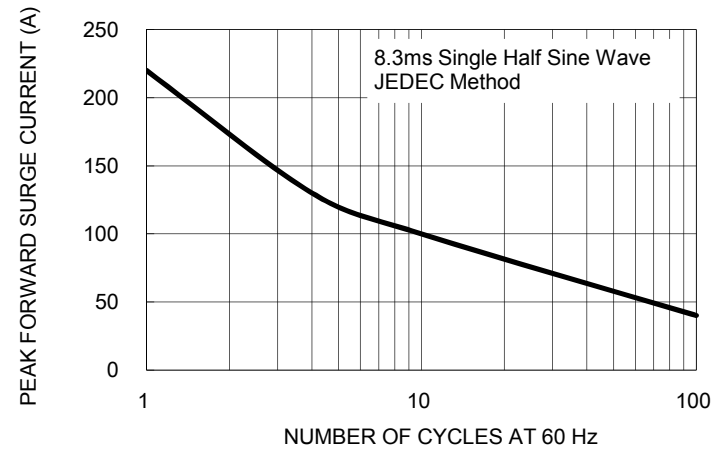


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

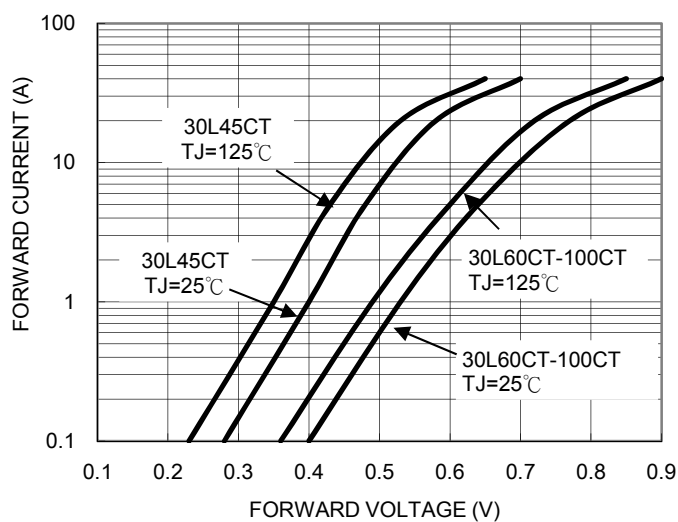


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

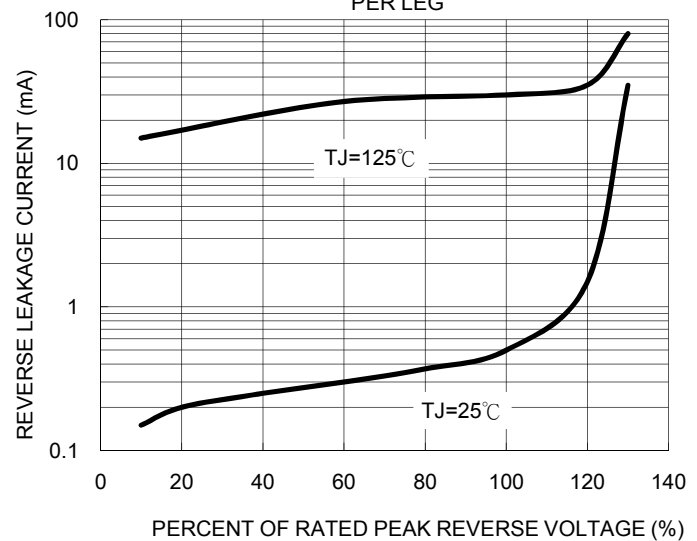


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

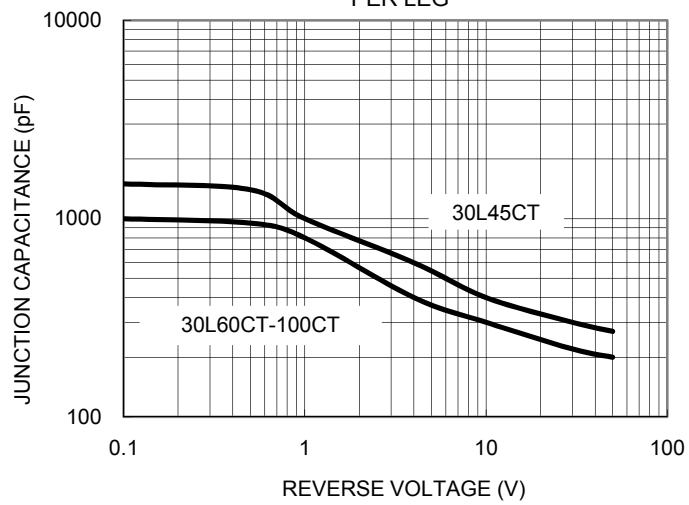
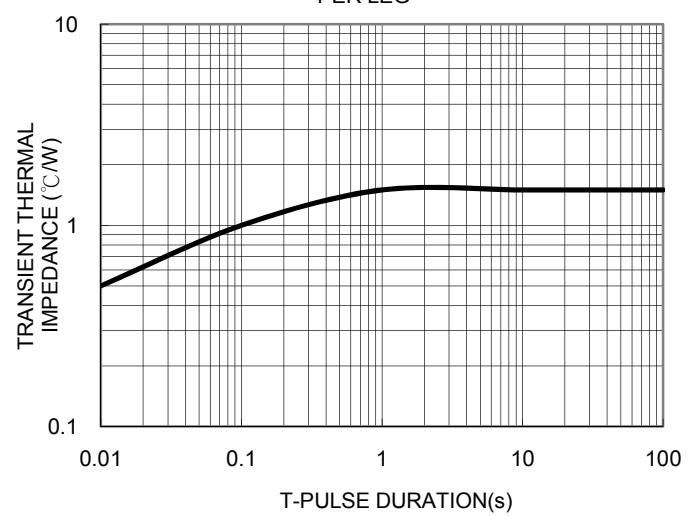
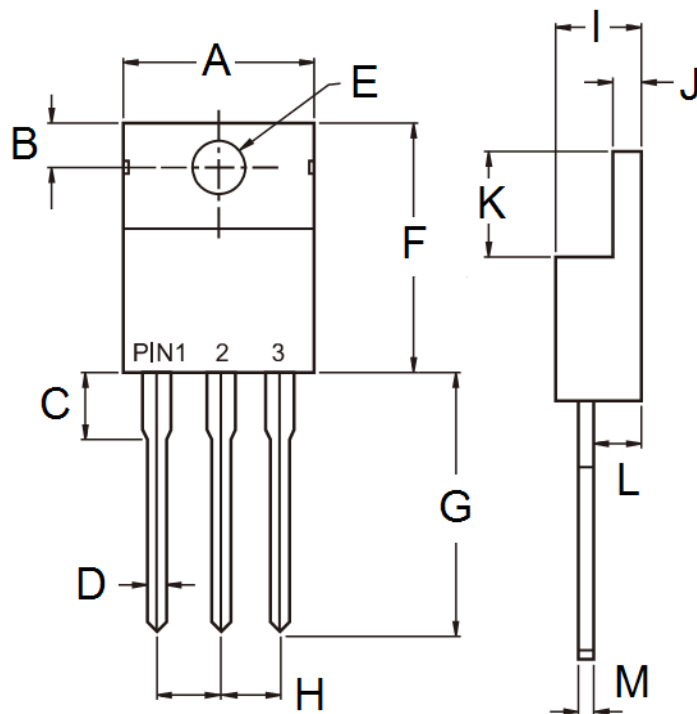


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

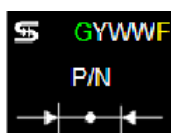


## PACKAGE OUTLINE DIMENSIONS



| 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

### 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 in accuracies.

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.



**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331