

## Schottky Barrier Rectifier

### FEATURES

- Low forward voltage drop
- 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



DO-201AD



### MECHANICAL DATA

**Case:** DO-201AD

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

**Weight:** 1.1g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                   |                    |              |        |        |        |              |        |        |        |        |      |
|----------------------------------------------------------------------------------------------------------------|--------------------|--------------|--------|--------|--------|--------------|--------|--------|--------|--------|------|
| PARAMETER                                                                                                      | SYMBOL             | SR 302       | SR 303 | SR 304 | SR 305 | SR 306       | SR 309 | SR 310 | SR 315 | SR 320 | UNIT |
| Maximum repetitive peak reverse voltage                                                                        | V <sub>RRM</sub>   | 20           | 30     | 40     | 50     | 60           | 90     | 100    | 150    | 200    | V    |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>   | 14           | 21     | 28     | 35     | 42           | 63     | 70     | 105    | 140    | V    |
| Maximum DC blocking voltage                                                                                    | V <sub>DC</sub>    | 20           | 30     | 40     | 50     | 60           | 90     | 100    | 150    | 200    | V    |
| Maximum average forward rectified current                                                                      | I <sub>F(AV)</sub> | 3            |        |        |        |              |        |        |        |        | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                            | I <sub>FSM</sub>   | 80           |        |        |        |              |        |        |        |        | A    |
| Maximum instantaneous forward voltage (Note 1) @ 3 A                                                           | V <sub>F</sub>     | 0.55         |        |        | 0.70   |              | 0.85   |        | 0.95   |        | V    |
| Maximum reverse current @ rated VR<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =100°C<br>T <sub>J</sub> =125 °C | I <sub>R</sub>     | 0.5          |        |        |        |              | 0.1    |        |        |        | mA   |
|                                                                                                                |                    | 10           |        |        | 5      |              | -      |        |        |        |      |
|                                                                                                                |                    | -            |        |        | -      |              | 2      |        |        |        |      |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                 | dV/dt              | 10000        |        |        |        |              |        |        |        |        | V/μs |
| Typical thermal resistance                                                                                     | R <sub>θJC</sub>   | 15           |        |        |        |              |        |        |        |        | °C/W |
|                                                                                                                | R <sub>θJA</sub>   | 50           |        |        |        |              |        |        |        |        |      |
| Operating junction temperature range                                                                           | T <sub>J</sub>     | - 55 to +125 |        |        |        | - 55 to +150 |        |        |        |        | °C   |
| Storage temperature range                                                                                      | T <sub>STG</sub>   | - 55 to +150 |        |        |        |              |        |        |        |        | °C   |

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

| ORDERING INFORMATION |                    |              |                     |          |                        |
|----------------------|--------------------|--------------|---------------------|----------|------------------------|
| PART NO.             | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE  | PACKING                |
| SR3xx<br>(Note 1)    | Prefix "H"         | A0           | Suffix "G"          | DO-201AD | 500 / Ammo box         |
|                      |                    | R0           |                     | DO-201AD | 1,250 / 13" Paper reel |
|                      |                    | B0           |                     | DO-201AD | 500 / Bulk packing     |
|                      |                    | X0           |                     | DO-201AD | Forming                |

Note 1: "xx" defines voltage from 20V (SR302) to 200V (SR320)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| SR306 A0      | SR306    |                    | A0           |                     |                    |
| SR306 A0G     | SR306    |                    | A0           | G                   | Green compound     |
| SR306HA0      | SR306    | H                  | A0           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

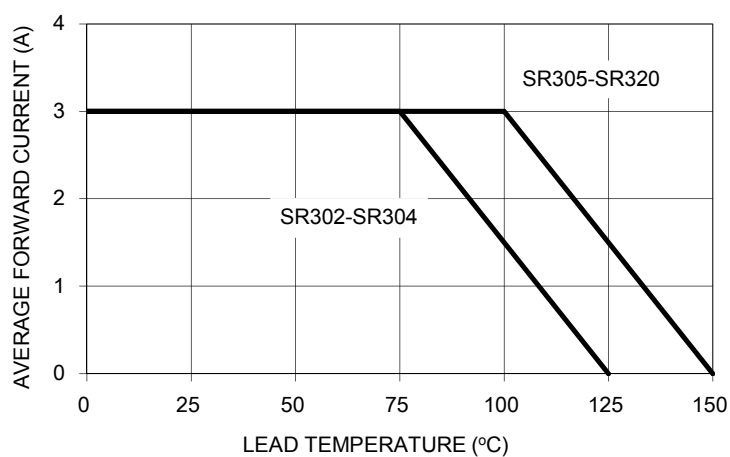


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

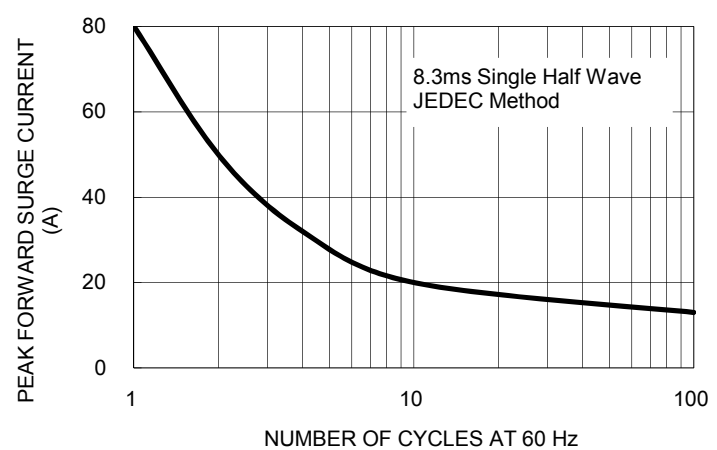


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

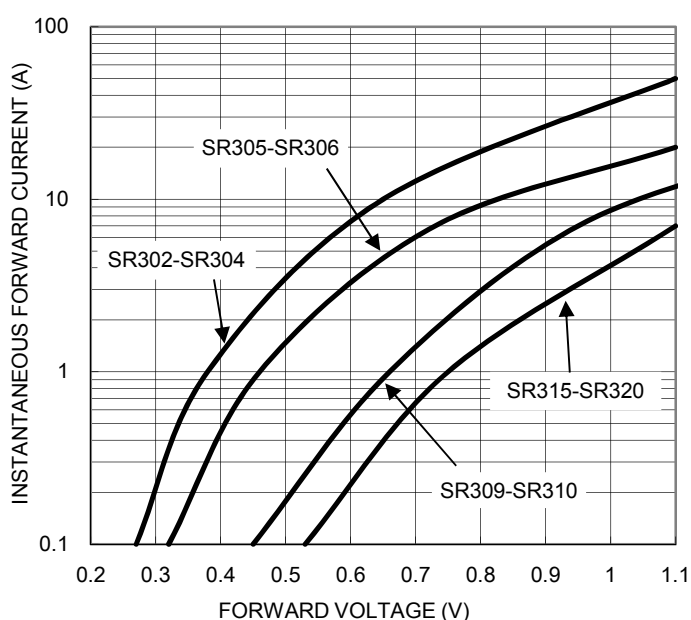


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

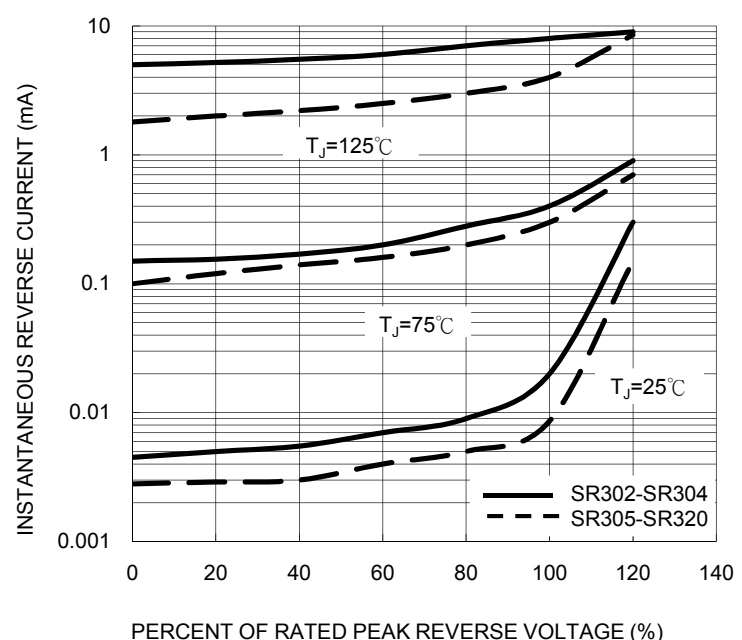


FIG. 5 TYPICAL JUNCTION CAPACITANCE

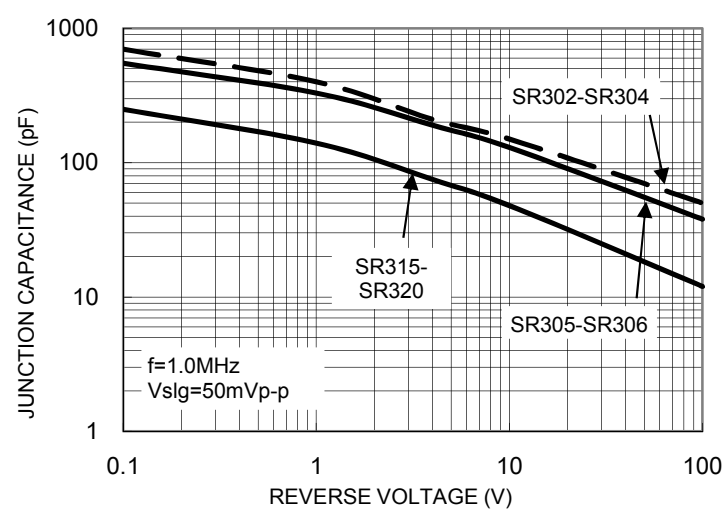
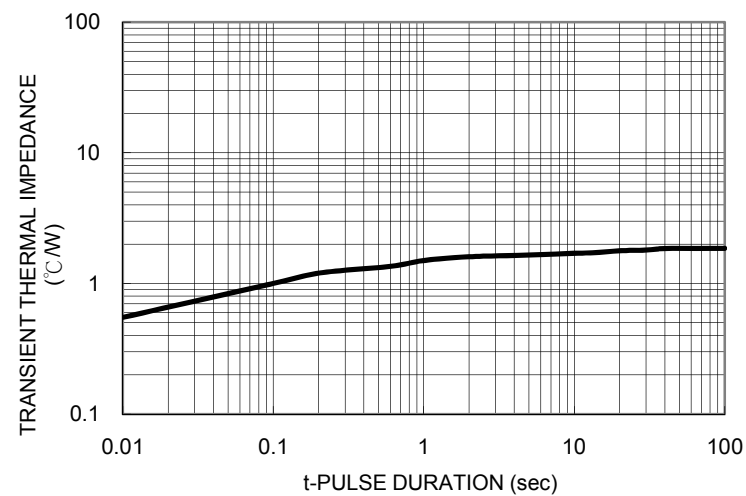
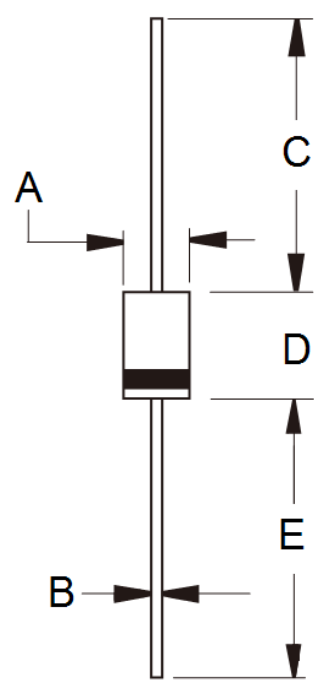


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 5.00      | 5.60 | 0.197       | 0.220 |
| B    | 1.20      | 1.30 | 0.048       | 0.052 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 8.50      | 9.50 | 0.335       | 0.375 |
| E    | 25.40     | -    | 1.000       | -     |

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 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 «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.