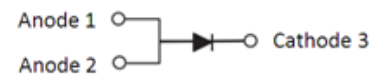


## 15A, 120V - 200V Trench Schottky Rectifiers

### FEATURES

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- Ideal for automated placement
- 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-277A (SMPC)**


### TYPICAL APPLICATIONS

Trench Schottky barrier rectifier is designed for high frequency miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters.

### MECHANICAL DATA

**Case:** TO-277A (SMPC)

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:** 95mg (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25°C unless otherwise noted) |  |                       |                        |                    |              |      |            |      |            |      |      |
|-----------------------------------------------------------------------------------------------|--|-----------------------|------------------------|--------------------|--------------|------|------------|------|------------|------|------|
| PARAMETER                                                                                     |  |                       |                        | SYMBOL             | TSP15H120S   |      | TSP15H150S |      | TSP15H200S |      | UNIT |
| Marking code                                                                                  |  |                       |                        |                    | 15H120       |      | 15H150     |      | 15H200     |      |      |
| Maximum repetitive peak reverse voltage                                                       |  |                       |                        | V <sub>RRM</sub>   | 120          |      | 150        |      | 200        |      | V    |
| Maximum average forward rectified current                                                     |  |                       |                        | I <sub>F(AV)</sub> | 15           |      |            |      |            |      | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load           |  |                       |                        | I <sub>FSM</sub>   | 250          |      |            |      |            |      | A    |
|                                                                                               |  |                       |                        |                    | TYP          | MAX  | TYP        | MAX  | TYP        | MAX  |      |
| Instantaneous forward voltage<br>(Note 1)                                                     |  | I <sub>F</sub> = 7.5A | T <sub>J</sub> = 25°C  | V <sub>F</sub>     | 0.57         | -    | 0.69       | -    | 0.73       | -    | V    |
|                                                                                               |  | I <sub>F</sub> = 15A  |                        |                    | 0.67         | 0.75 | 0.75       | 0.84 | 0.79       | 0.89 |      |
|                                                                                               |  | I <sub>F</sub> = 7.5A | T <sub>J</sub> = 125°C |                    | 0.48         | -    | 0.56       | -    | 0.59       | -    |      |
|                                                                                               |  | I <sub>F</sub> = 15A  |                        |                    | 0.58         | 0.66 | 0.63       | 0.73 | 0.66       | 0.76 |      |
| Instantaneous reverse current at rated reverse voltage                                        |  |                       | T <sub>J</sub> = 25°C  | I <sub>R</sub>     | -            | 250  | 6          | 150  | 6          | 150  | μA   |
|                                                                                               |  |                       | T <sub>J</sub> = 125°C |                    | 15           | 35   | 4          | 25   | 4          | 25   | mA   |
| Typical thermal resistance                                                                    |  |                       |                        | R <sub>θJL</sub>   | 9            |      |            |      |            |      | °C/W |
| Operating temperature range                                                                   |  |                       |                        | T <sub>J</sub>     | - 55 to +150 |      |            |      |            |      | °C   |
| Storage temperature range                                                                     |  |                       |                        | T <sub>STG</sub>   | - 55 to +150 |      |            |      |            |      | °C   |

Note 1: Pulse Test with Pulse Width = 300μs, 1% duty cycle

**ORDERING INFORMATION**

| PART NO.                  | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING                 |
|---------------------------|--------------|---------------------|---------|-------------------------|
| TSP15HXXXS<br>(Note 1, 2) | S1           | G                   | SMPC    | 1,500/ 7" Plastic reel  |
|                           | S2           |                     | SMPC    | 6,000/ 13" Plastic reel |

Note 1: "XXX" defines voltage from 120V (TSP15H120S) to 200V (TSP15H200S)

Note 2: Whole series with green compound (halogen-free)

**EXAMPLE**

| PREFERRED PART NO. | PART NO.   | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION    |
|--------------------|------------|--------------|---------------------|----------------|
| TSP15H120S S1G     | TSP15H120S | S1           | G                   | Green compound |

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

FIG.1- FORWARD CURRENT DERATING CURVE

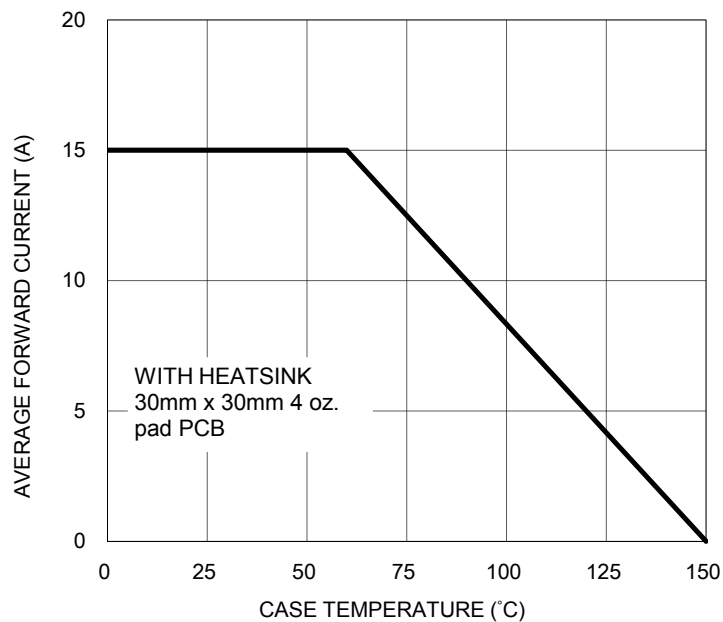


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

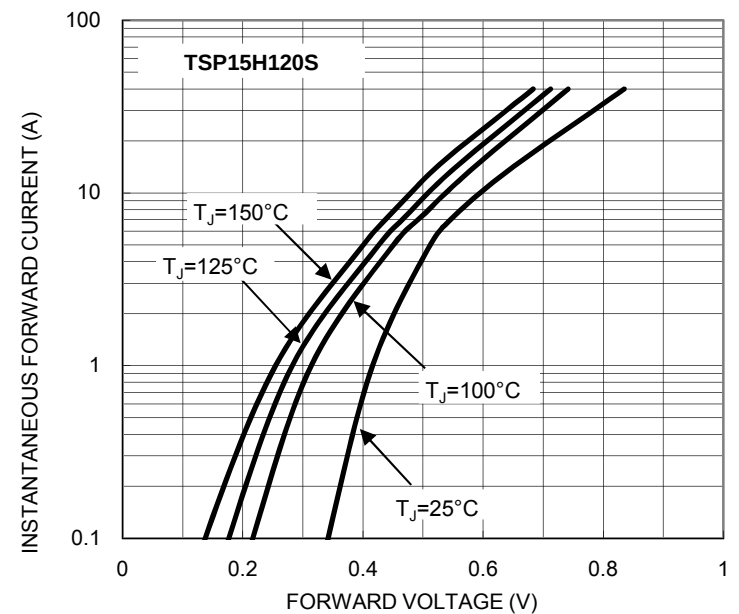


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

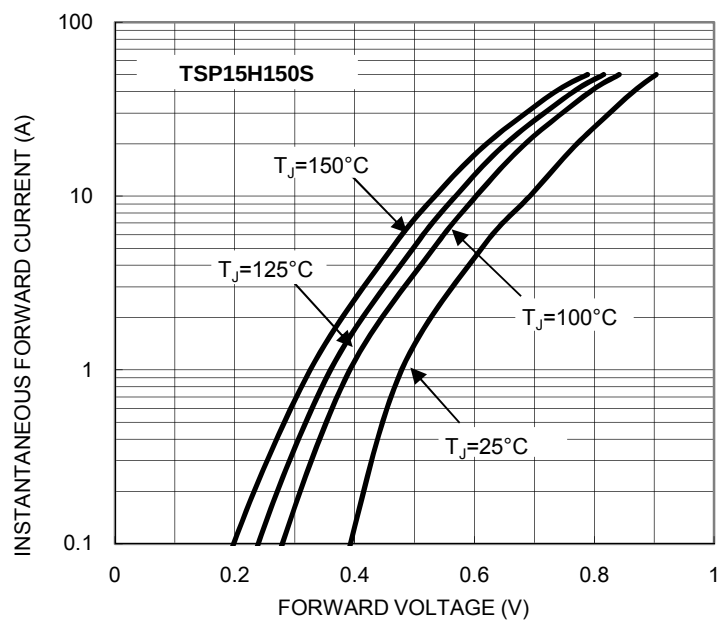


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

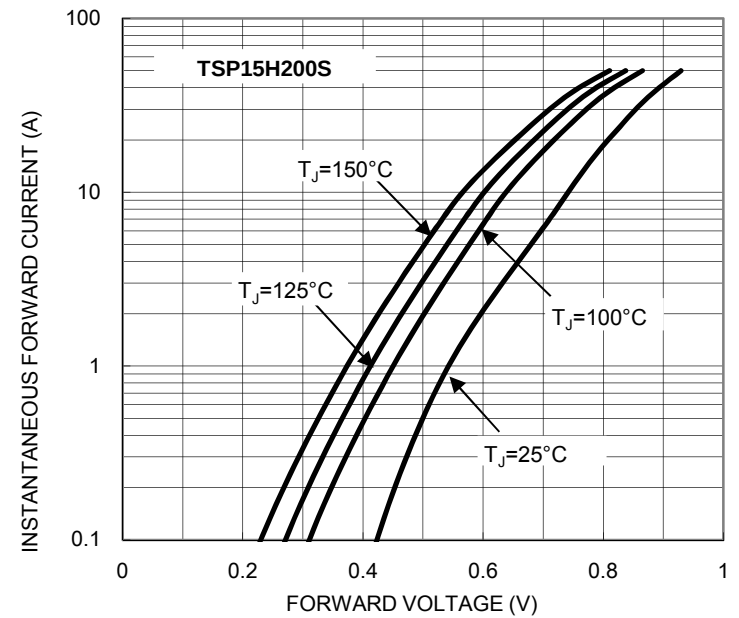


FIG. 5- TYPICAL REVERSE CHARACTERISTICS

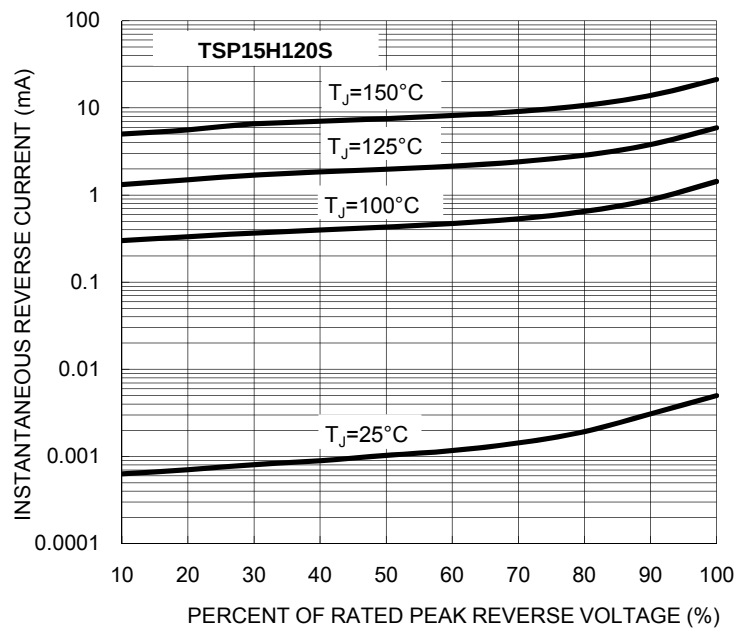


FIG. 6- TYPICAL REVERSE CHARACTERISTICS

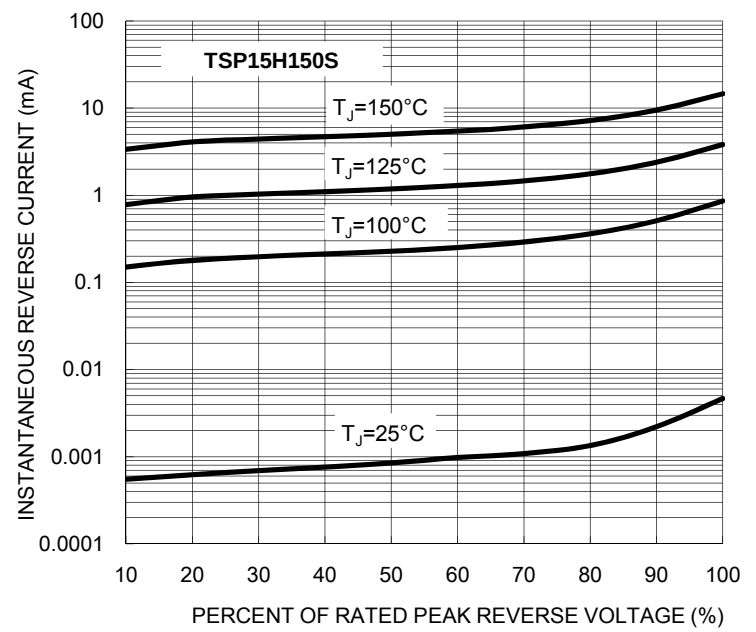


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

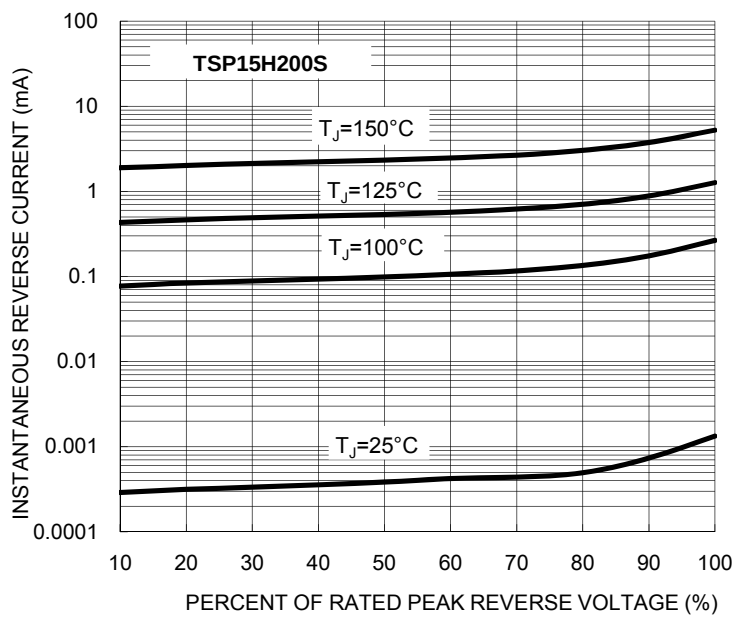


FIG. 8- TYPICAL JUNCTION CAPACITANCE

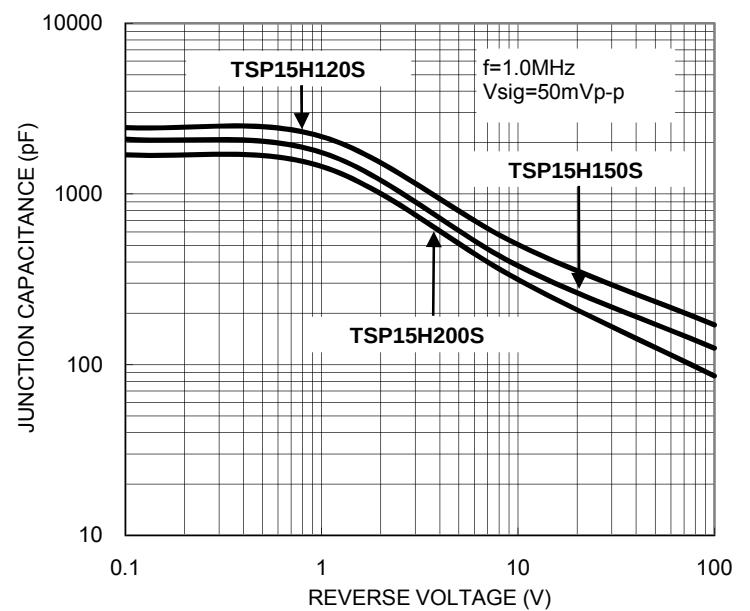
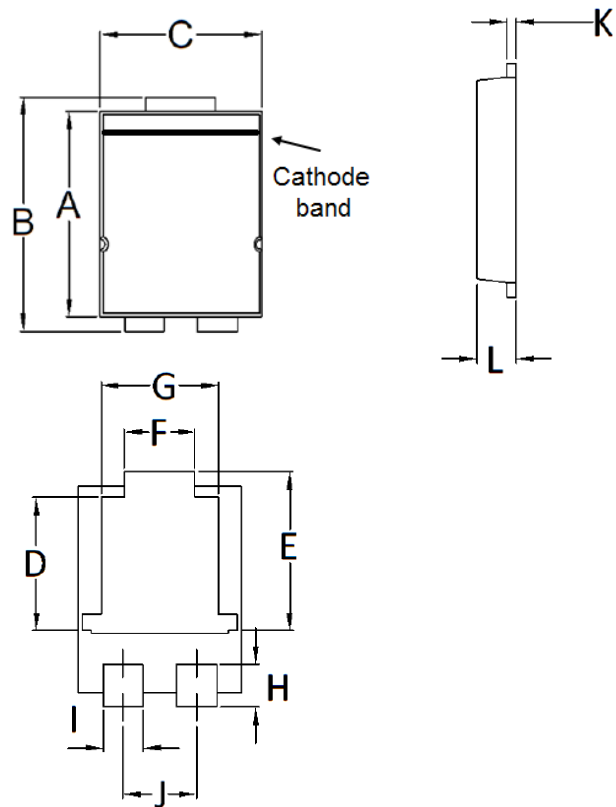


FIG. 9- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



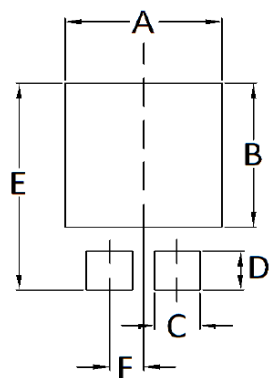
**PACKAGE OUTLINE DIMENSIONS**

**TO-277A (SMPC)**



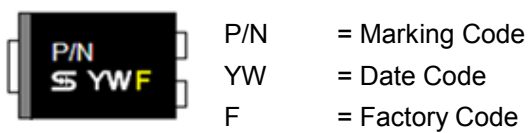
| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 5.650     | 5.750 | 0.222       | 0.226 |
| B    | 6.350     | 6.650 | 0.250       | 0.262 |
| C    | 4.550     | 4.650 | 0.179       | 0.183 |
| D    | 3.540     | 3.840 | 0.139       | 0.151 |
| E    | 4.235     | 4.535 | 0.167       | 0.179 |
| F    | 1.850     | 2.150 | 0.073       | 0.085 |
| G    | 3.170     | 3.470 | 0.125       | 0.137 |
| H    | 1.043     | 1.343 | 0.041       | 0.053 |
| I    | 1.000     | 1.300 | 0.039       | 0.051 |
| J    | 1.930     | 2.230 | 0.076       | 0.088 |
| K    | 0.175     | 0.325 | 0.007       | 0.013 |
| L    | 1.000     | 1.200 | 0.039       | 0.047 |

**SUGGESTED PAD LAYOUT**



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 4.80      | 0.189       |
| B      | 4.72      | 0.186       |
| C      | 1.40      | 0.055       |
| D      | 1.27      | 0.050       |
| E      | 6.80      | 0.268       |
| F      | 1.04      | 0.041       |

**MARKING DIAGRAM**



### **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.



**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