

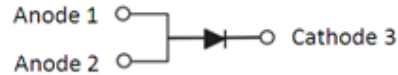
### 10A, 200V Trench Schottky Rectifier

**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 2 whisker test

**Polarity:** As marked

**Weight:** 95mg (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted) |                    |                        |     |      |      |    |
|--|--------------------|------------------------|-----|------|------|----|
| PARAMETER  | SYMBOL             | TSP10H200S             |     |      | UNIT |    |
| Marking code   |                    | 10H200                 |     |      |      |    |
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>   | 200                    |     |      | V    |    |
| Maximum average forward rectified current (Note 1)   | I <sub>F(AV)</sub> | 10                     |     |      | A    |    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load          | I <sub>FSM</sub>   | 180                    |     |      | A    |    |
| Maximum instantaneous forward voltage (Note 2)   | V <sub>F</sub>     | T <sub>J</sub> = 25°C  | MIN | TYP  | MAX  | V  |
|  |                    |                        | -   | 0.75 | -    |    |
|  |                    | T <sub>J</sub> = 125°C | -   | 0.80 | 0.91 |    |
|  |                    |                        | -   | 0.59 | -    |    |
| Maximum instantaneous reverse current at rated reverse voltage                               | I <sub>R</sub>     | T <sub>J</sub> = 25°C  | -   | 5    | 100  | μA |
|  |                    | T <sub>J</sub> = 125°C | -   | 3    | 20   | mA |
| Typical thermal resistance   | R <sub>θJL</sub>   | 15                     |     |      | °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: Mounted on 30 mm x 30 mm 4 oz. pad PCB

Note 2: Pulse Test with Pulse Width=300μs, 1% Duty Cycle

**ORDERING INFORMATION**

| PART NO.   | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING                |
|------------|--------------|---------------------|---------|------------------------|
| TSP10H200S | S1           | G                   | SMPC    | 1,500/7" Plastic reel  |
|            | S2           |                     | SMPC    | 6,000/13" Plastic reel |

Note: Whole series with green compound

**EXAMPLE**

| PREFERRED PART NO. | PART NO.   | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION    |
|--------------------|------------|--------------|---------------------|----------------|
| TSP10H200S S1G     | TSP10H200S | S1           | G                   | Green compound |

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1- FORWARD CURRENT DERATING CURVE

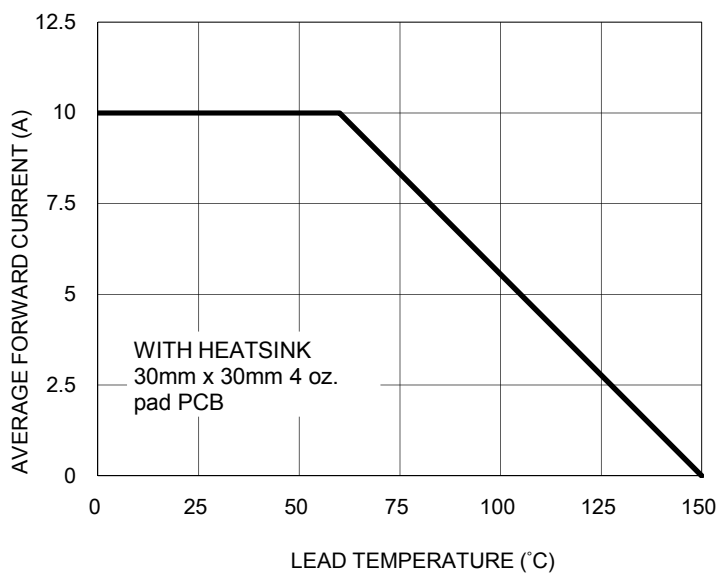


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

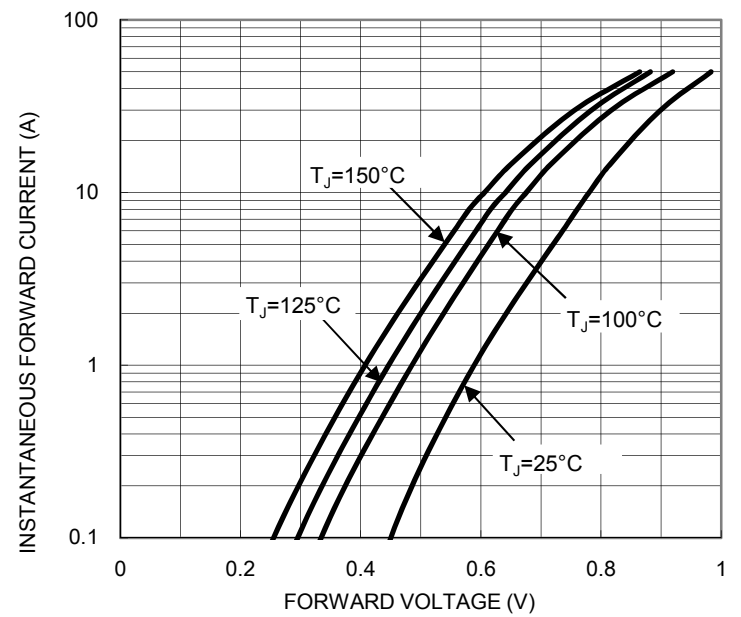


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

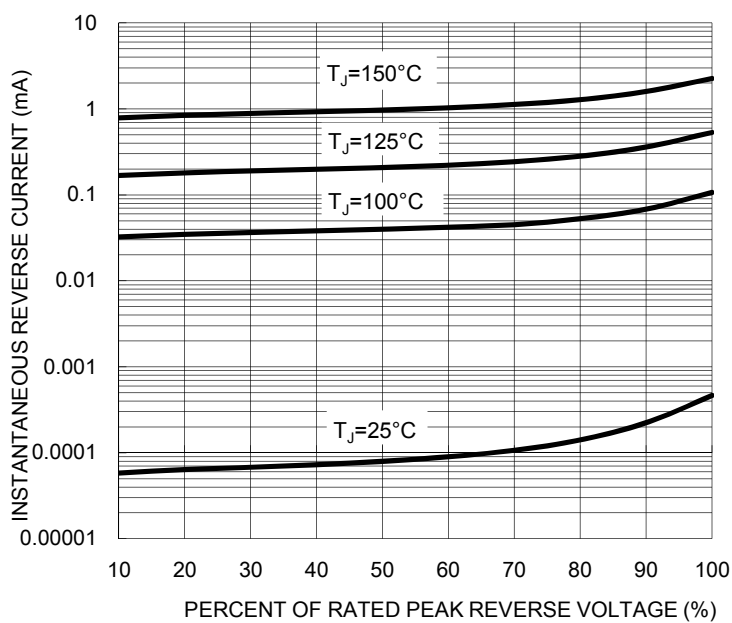


FIG. 4- TYPICAL JUNCTION CAPACITANCE

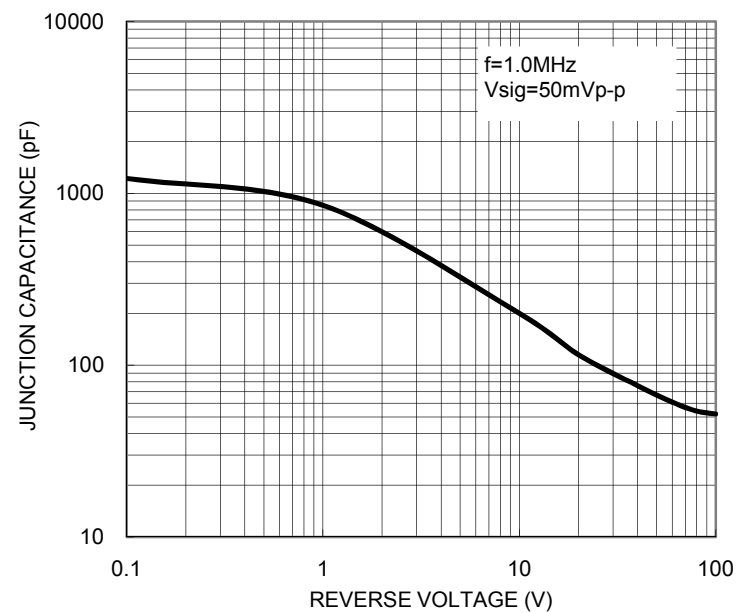
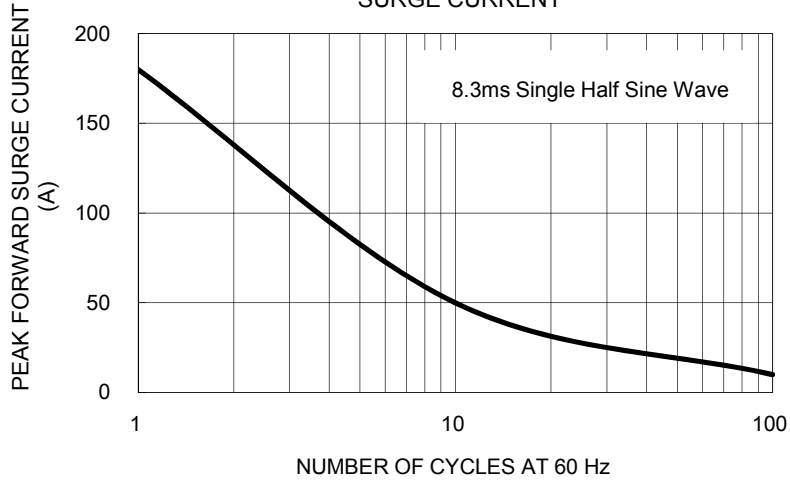
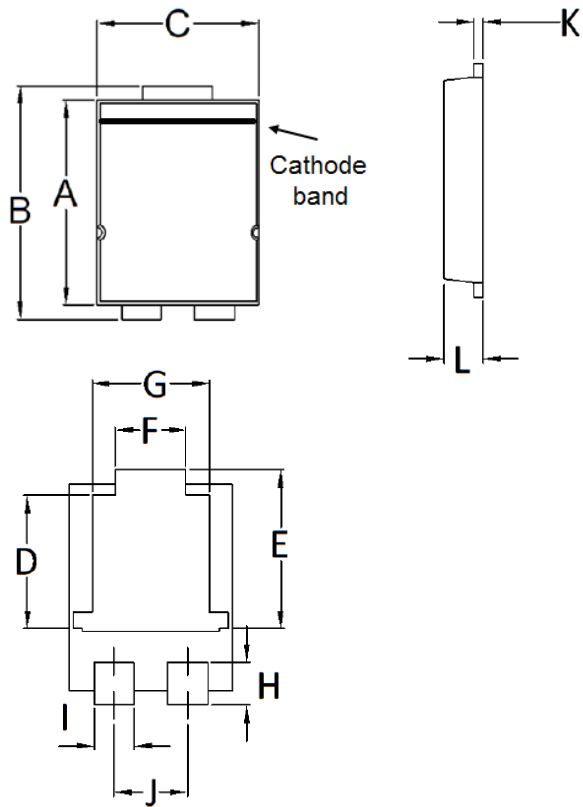


FIG. 5 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT



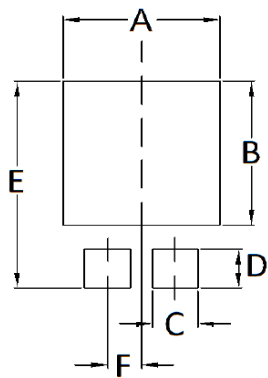
PACKAGE OUTLINE DIMENSIONS

**TO-277A (SMPC)**



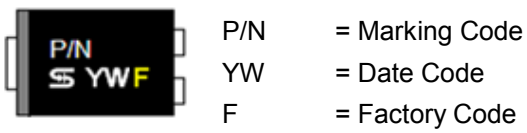
| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 5.650     | 5.750 | 0.222       | 0.226 |
| B    | 6.350     | 6.650 | 0.250       | 0.262 |
| C    | 4.550     | 4.650 | 0.179       | 0.183 |
| 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



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