

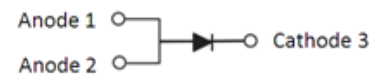
## 15A, 120V - 200V Trench Schottky Rectifiers

### 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 (Note 1)	I <sub>F</sub> = 7.5A	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		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 (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

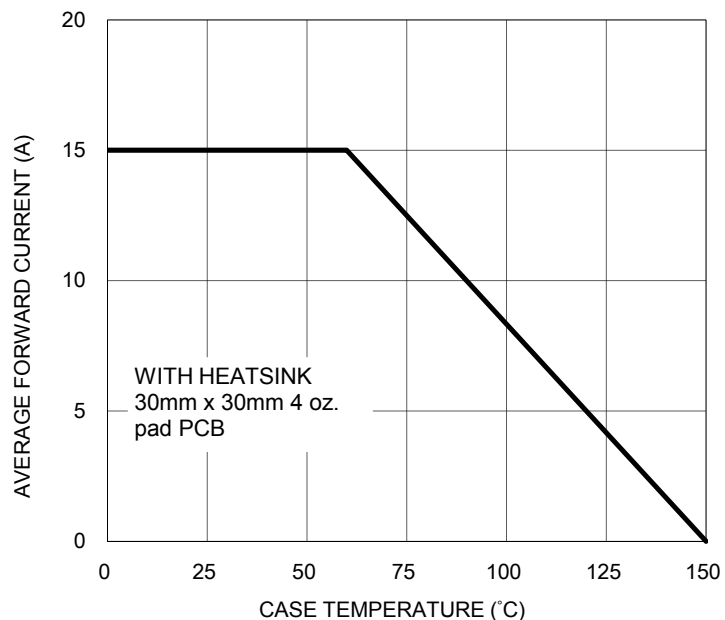


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

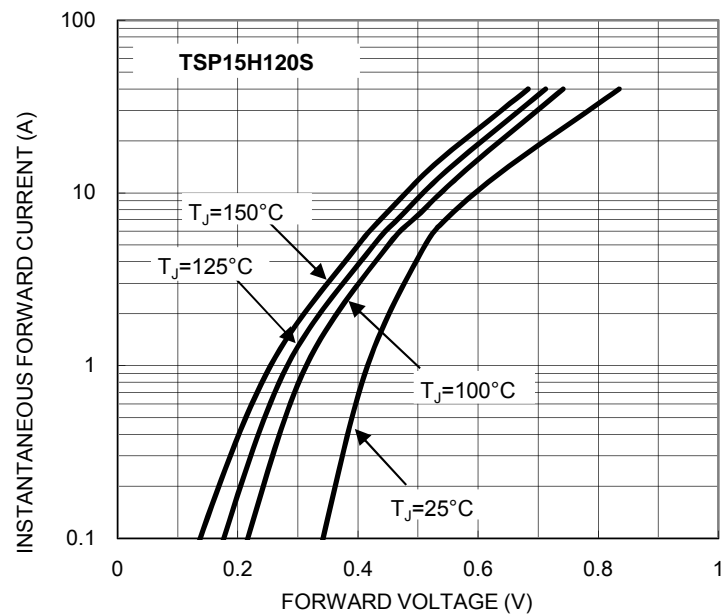


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

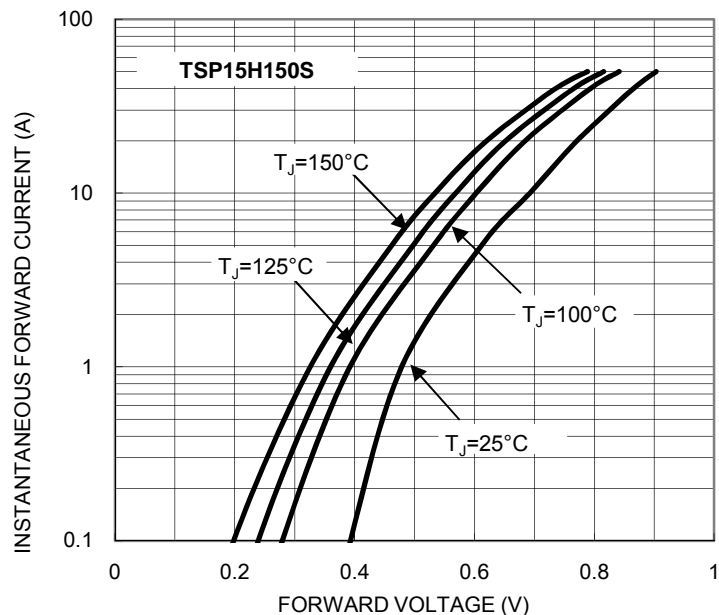


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

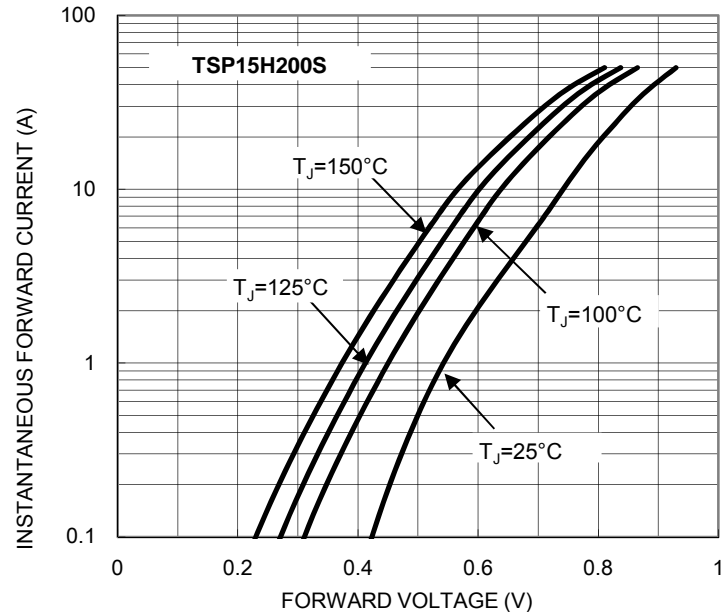


FIG. 5- TYPICAL REVERSE CHARACTERISTICS

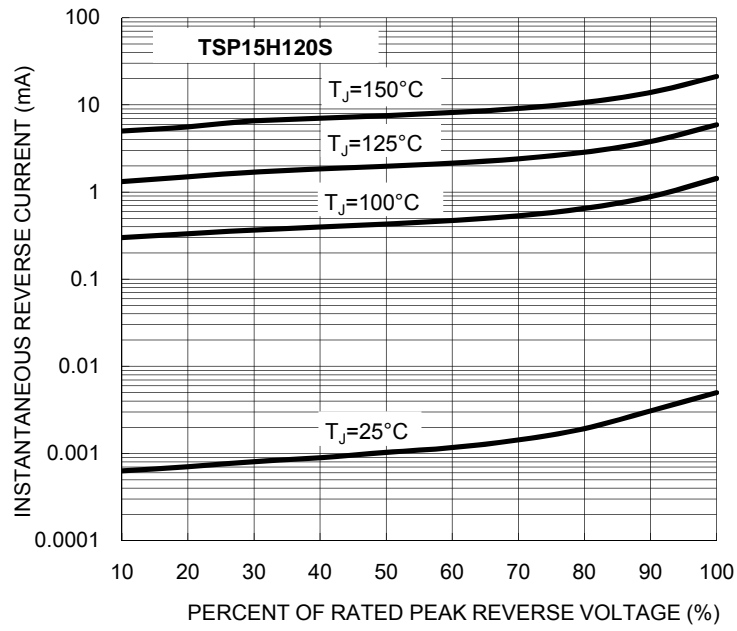


FIG. 6- TYPICAL REVERSE CHARACTERISTICS

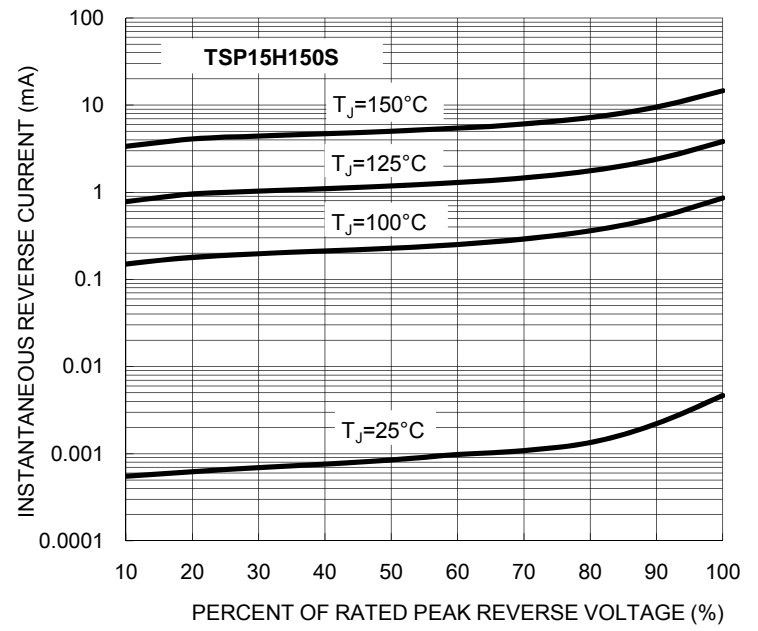


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

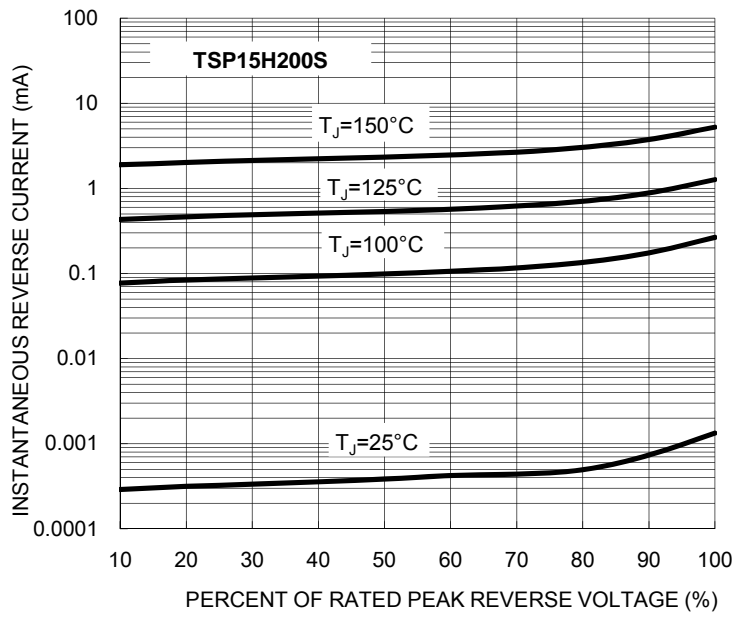


FIG. 8- TYPICAL JUNCTION CAPACITANCE

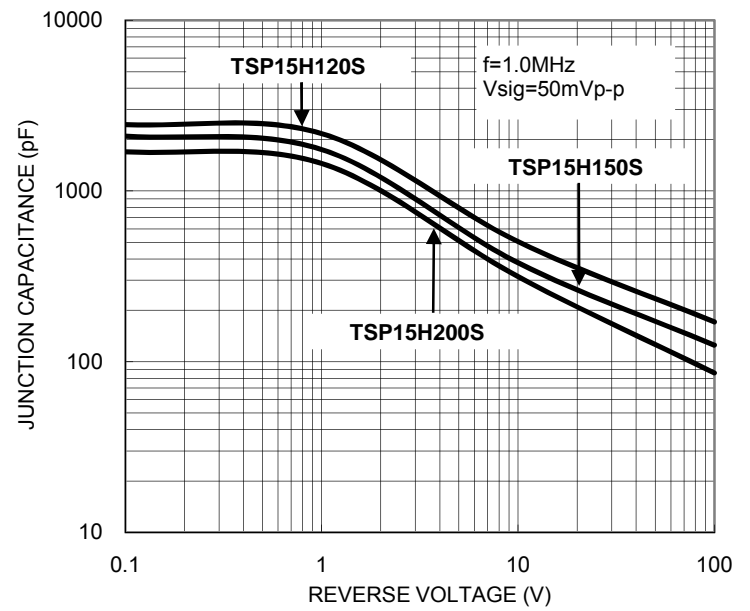
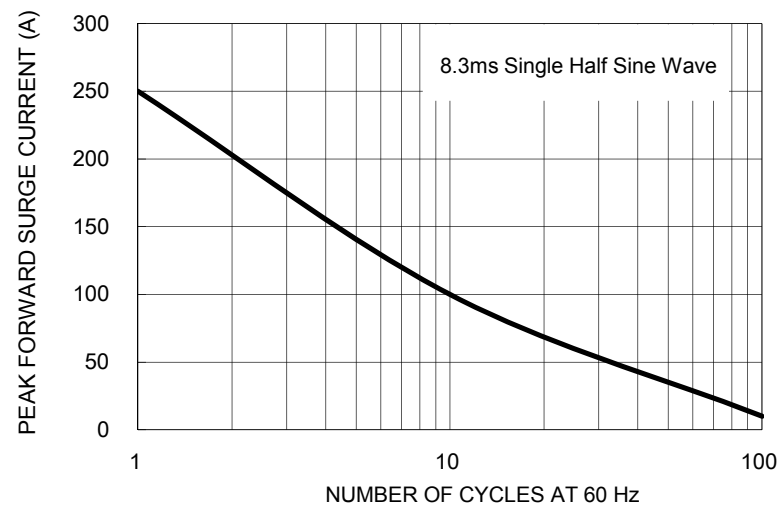
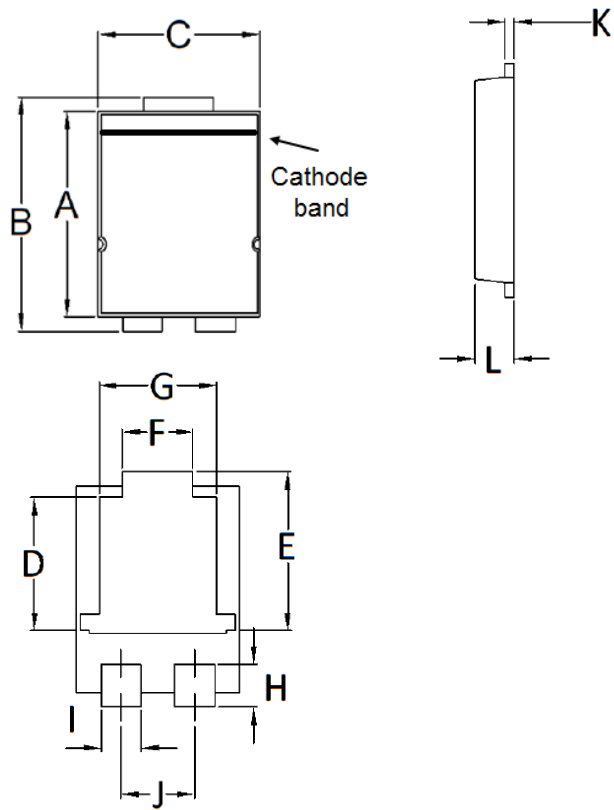


FIG. 9- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



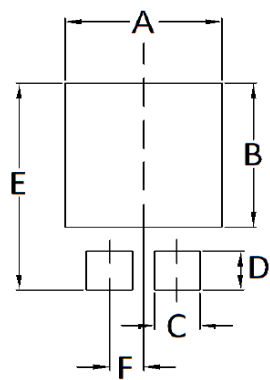
PACKAGE OUTLINE DIMENSIONS

**TO-277A (SMPC)**



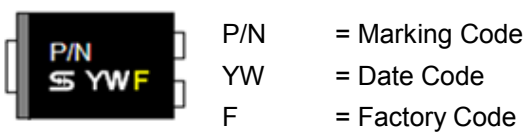
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.650	5.750	0.222	0.226
B	6.350	6.650	0.250	0.262
C	4.550	4.650	0.179	0.183
D	3.540	3.840	0.139	0.151
E	4.235	4.535	0.167	0.179
F	1.850	2.150	0.073	0.085
G	3.170	3.470	0.125	0.137
H	1.043	1.343	0.041	0.053
I	1.000	1.300	0.039	0.051
J	1.930	2.230	0.076	0.088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