

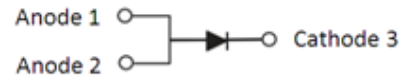
## Trench Schottky Rectifier

### 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
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**SMPC4.0**



### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** SMPC4.0

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "M" on P/N - commercial grade

Base P/N with suffix "G" on packing code - green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

**Polarity:** Indicated by cathode band

**Weight:** 0.095 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)							
PARAMETER	SYMBOL		TSPB15U100S			UNIT	
Marking code			15U100				
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>		100			V	
Maximum average forward rectified current (Note 1)	I <sub>F(AV)</sub>		15			A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>		150			A	
Maximum instantaneous forward voltage per diode (Note 2)	I <sub>F</sub> = 5A	T <sub>J</sub> = 25°C	V <sub>F</sub>	MIN	0.49	-	V
				TYP	0.52	-	
				MAX	0.62	0.70	
	I <sub>F</sub> = 7.5A	T <sub>J</sub> = 125°C		MIN	0.40	-	
				TYP	0.45	-	
				MAX	0.56	0.64	
Maximum instantaneous reverse current per diode at rated reverse voltage	T <sub>J</sub> = 25°C	I <sub>R</sub>	MIN	9	250	μA	
			T <sub>J</sub> = 125°C	-	7	20	mA
Maximum DC reverse voltage	V <sub>DC</sub>		35			V	
Typical thermal resistance	R <sub>θJC</sub>		8			°C/W	
Operating temperature range	T <sub>J</sub>		- 55 to +150			°C	
Storage temperature range	T <sub>STG</sub>		- 55 to +150			°C	

Note1: Mounted on 30 mm x 30 mm 4 oz. pad PCB

Note2: Pulse Test with Pulse Width=300μs, 1% Duty Cycle

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSPB15U100S	M	S1	G	SMPC4.0	1,500/7" Plastic reel
		S2			6,000/13" Plastic reel

Note : Whole series with green compound

**EXAMPLE**

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSPB15U100SMS1G	TSPB15U100S	M	S1	G	Commercial grade Green compound

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1- FORWARD CURRENT DERATING CURVE

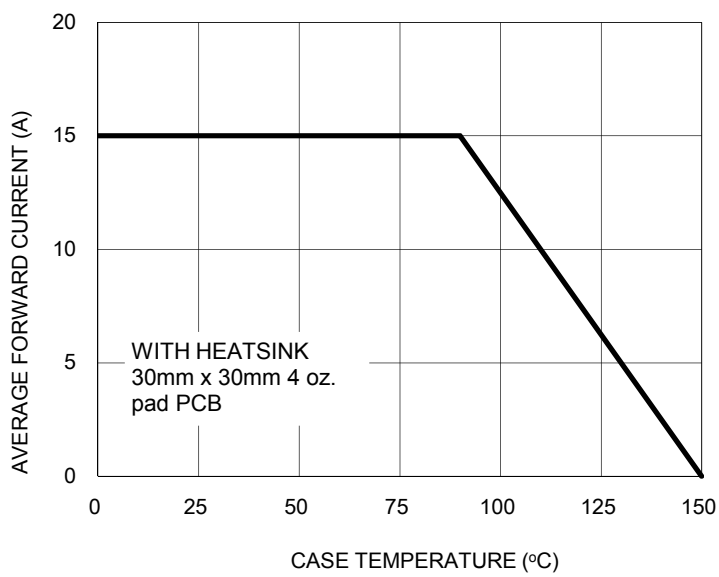


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

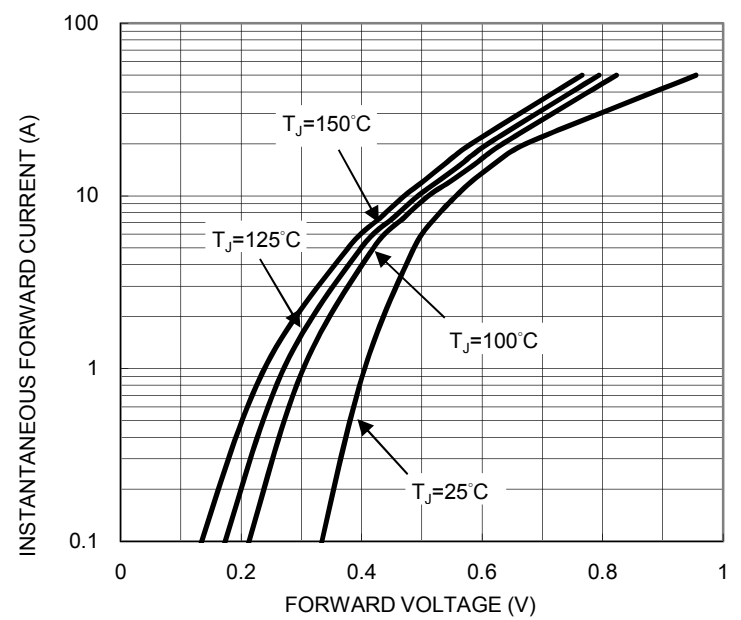


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

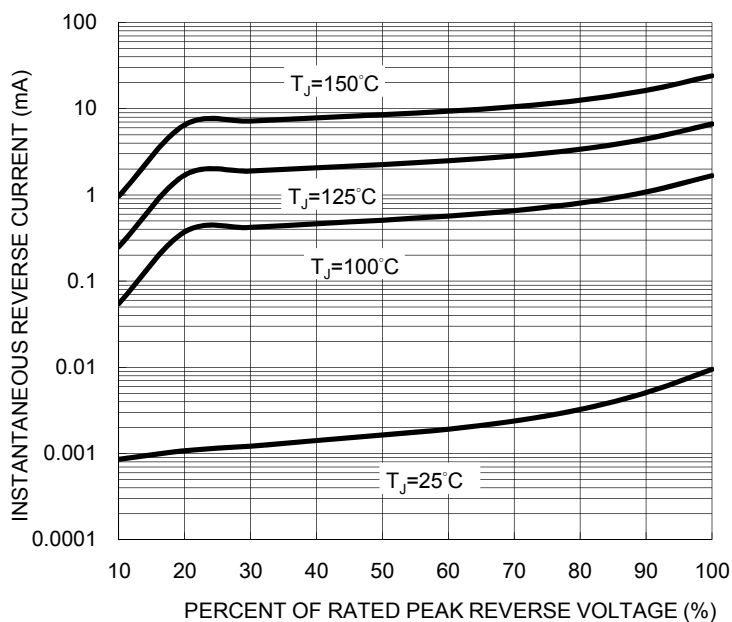
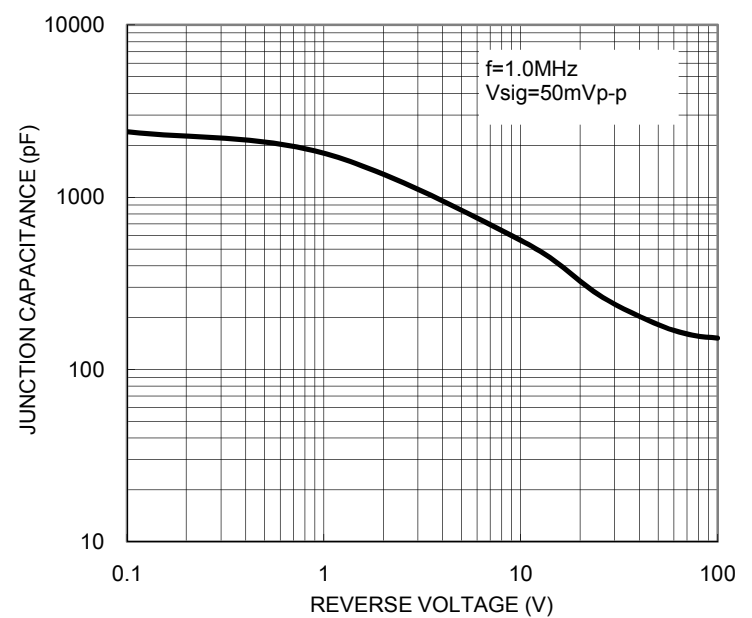
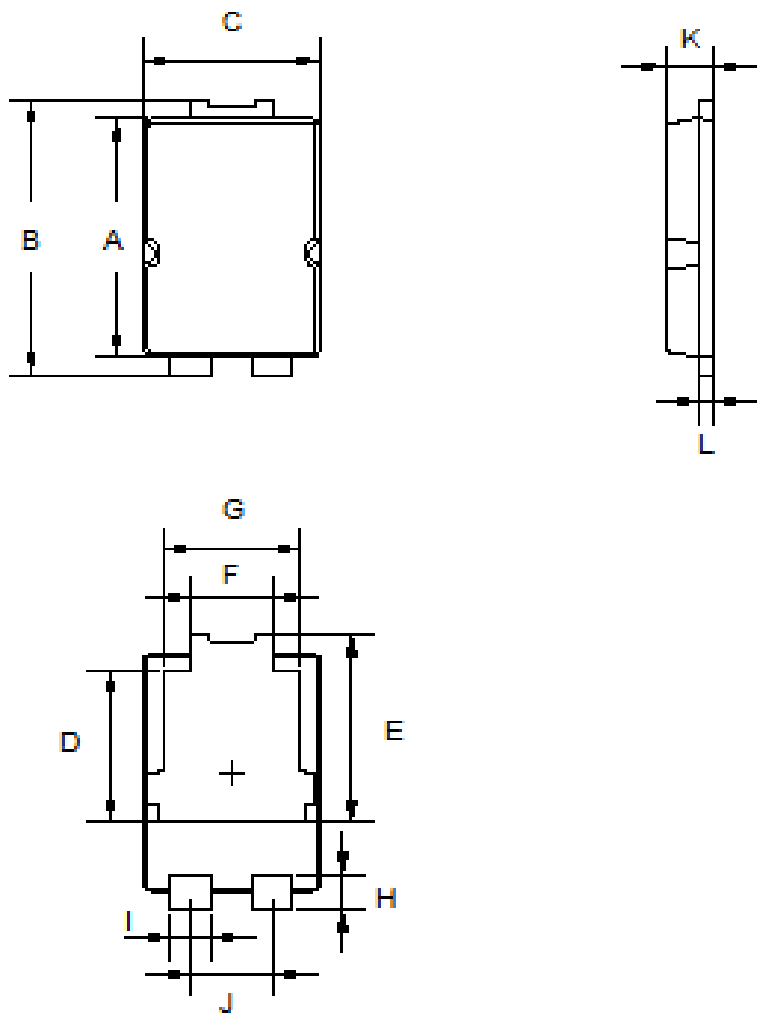


FIG. 4- TYPICAL JUNCTION CAPACITANCE

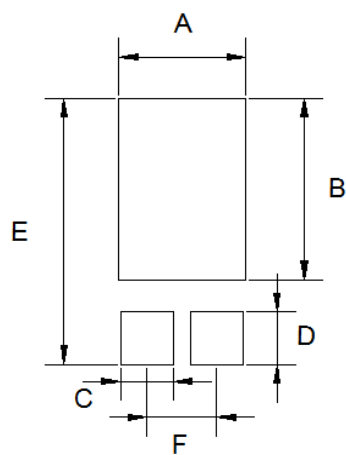


PACKAGE OUTLINE DIMENSIONS  
**SMPC4.0**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.55	5.65	0.219	0.222
B	6.35	6.65	0.250	0.262
C	3.95	4.05	0.156	0.159
D	3.40	3.70	0.134	0.146
E	4.25	4.55	0.167	0.179
F	1.69	1.99	0.067	0.078
G	2.95	3.25	0.116	0.128
H	0.70	1.00	0.028	0.039
I	0.75	1.05	0.030	0.041
J	1.69	1.99	0.067	0.078
K	1.00	1.20	0.039	0.047
L	0.20	0.40	0.008	0.016

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



P/N = Marking Code  
YW = Date Code  
F = Factory Code

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