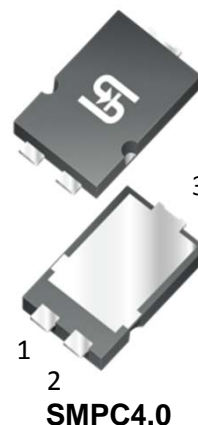


5A, 100V - 150V Trench Schottky Rectifiers

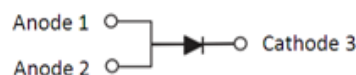
FEATURES

- 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



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: SMPC4.0

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: Indicated by cathode band

Weight: 90mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)									
PARAMETER		SYMBOL	TSPB5H 100S		TSPB5H 120S		TSPB5H 150S		UNIT
Marking code			B5H100		B5H120		B5H150		
Maximum repetitive peak reverse voltage		V_{RRM}	100		120		150		V
Maximum average forward rectified current		$I_{F(AV)}$	5		5		5		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load		I_{FSM}	100		100		100		A
Voltage rate of change (Rated V_R)		dV/dt	10000		10000		10000		V/ μs
Instantaneous forward voltage (Note1)	$I_F = 5\text{A}$	V_F	TYP	MAX	TYP	MAX	TYP	MAX	V
	$T_J = 25^\circ\text{C}$		0.59	0.66	0.66	0.74	0.74	0.84	
Instantaneous reverse current at rated reverse voltage	$T_J = 25^\circ\text{C}$	I_R	-	150	-	150	-	100	μA
	$T_J = 125^\circ\text{C}$		8	18	8	18	2	12	mA
Typical thermal resistance		$R_{\theta JL}$	15		15		15		$^\circ\text{C}/\text{W}$
Operating junction temperature range		T_J	- 55 to +150		- 55 to +150		- 55 to +150		$^\circ\text{C}$
Storage temperature range		T_{STG}	- 55 to +150		- 55 to +150		- 55 to +150		$^\circ\text{C}$

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSPB5H1xxS (Note 1, 2)	S1	G	SMPC4.0	1,500/ 7" Plastic reel
	S2		SMPC4.0	6,000/ 13" Plastic reel

Note 1: "xx" defines voltage from 100V (TSPB5H100S) to 150V (TSPB5H150S)

Note 2: Whole series with green compound

EXAMPLE

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSPB5H100S S1G	TSPB5H100S	S1	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

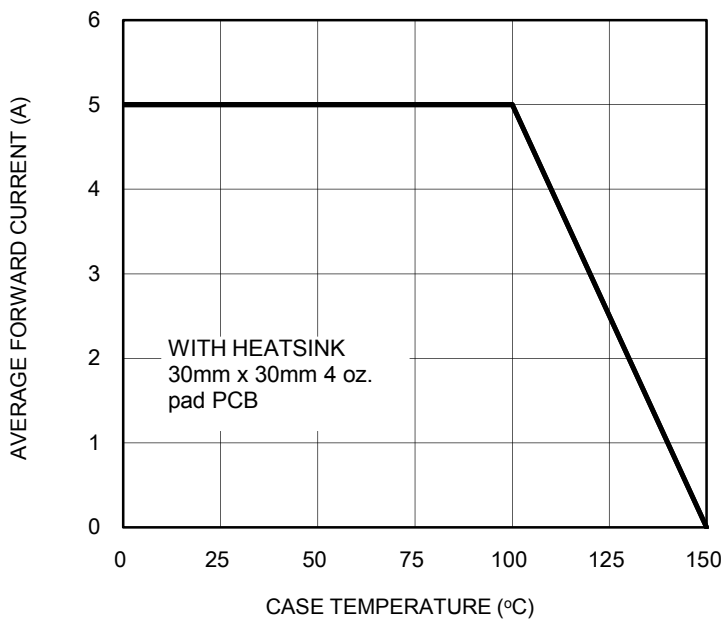


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

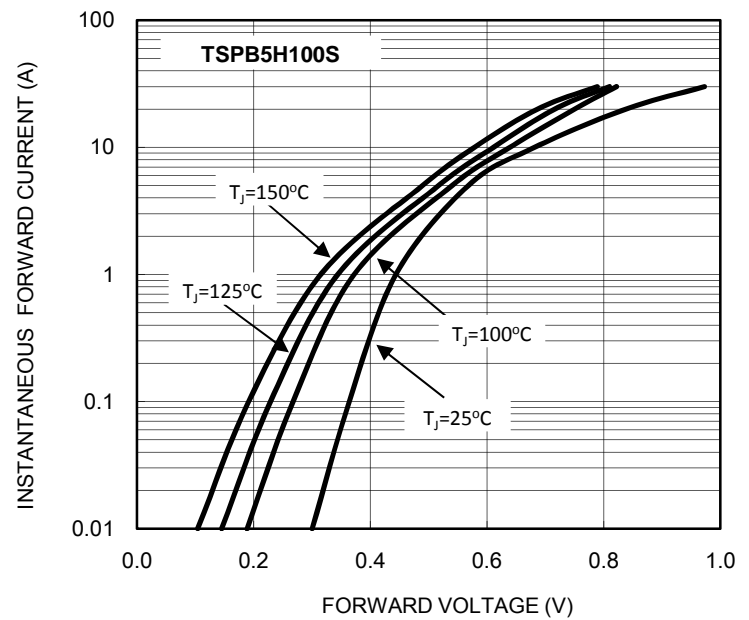


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

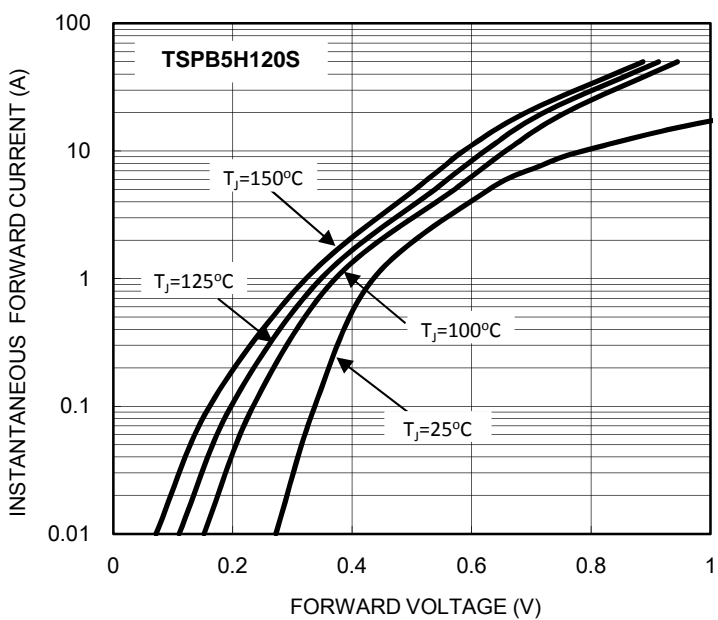


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

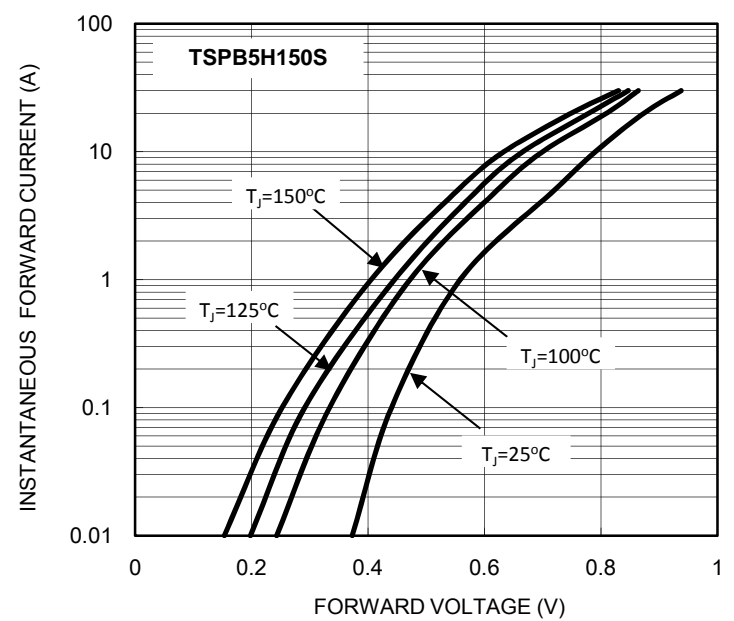


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

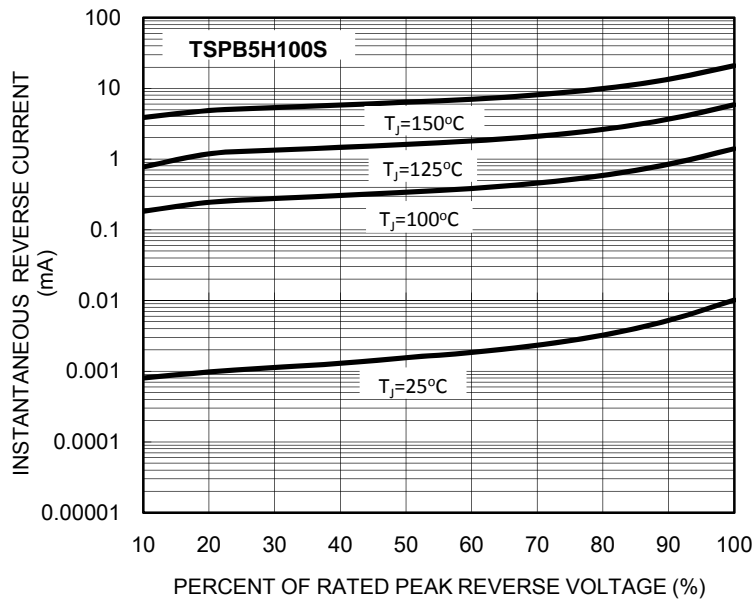


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

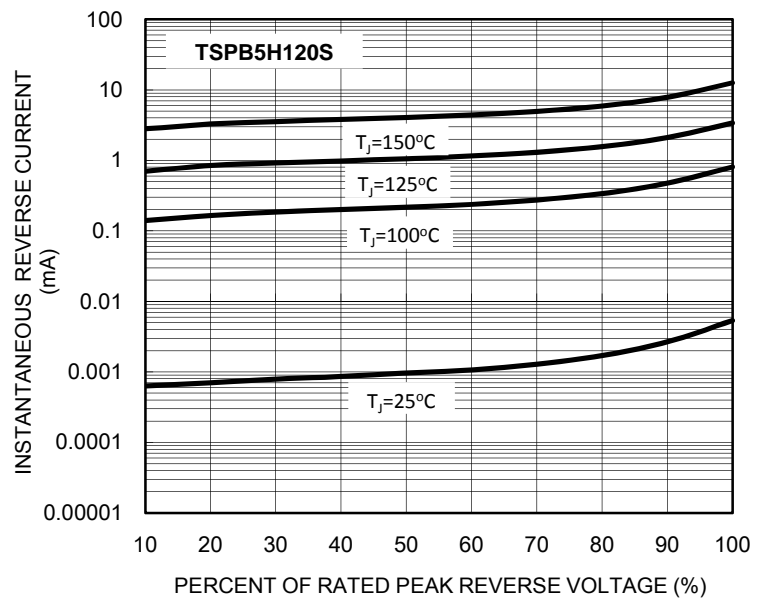


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

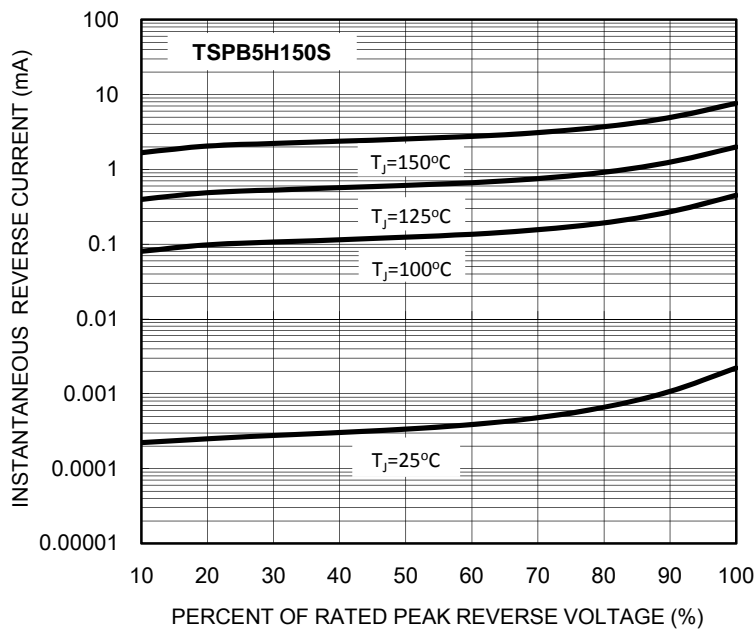
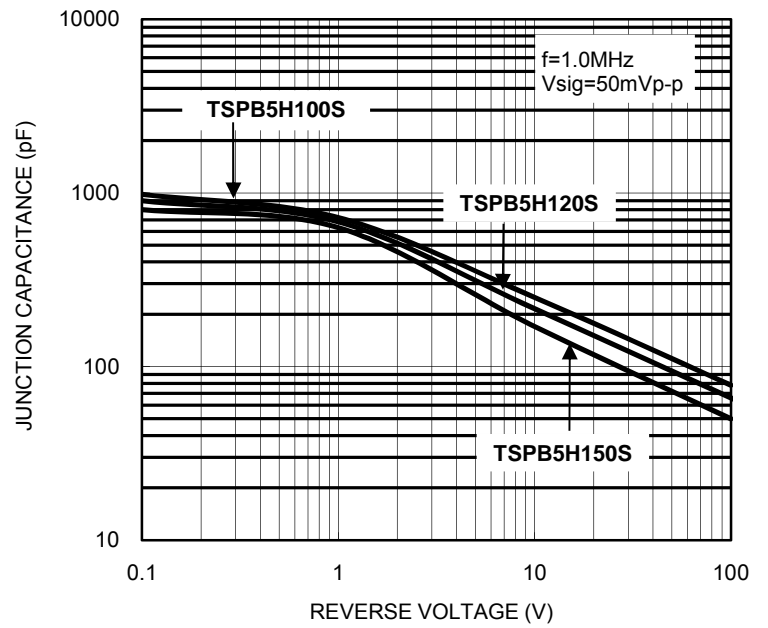
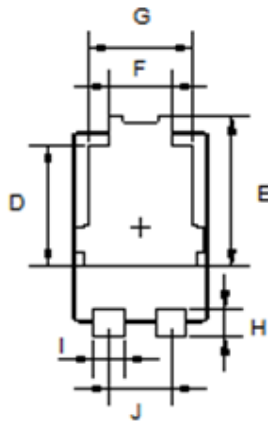
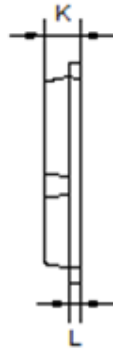
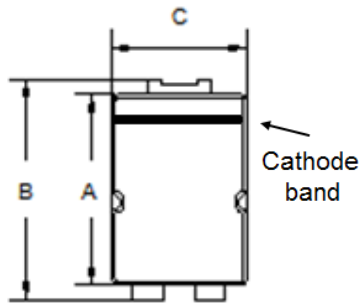


FIG. 8 TYPICAL JUNCTION CAPACITANCE

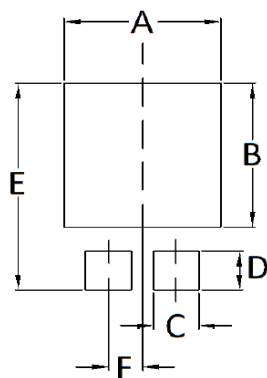


PACKAGE OUTLINE DIMENSIONS
SMPC4.0



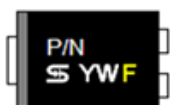
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.55	5.65	0.219	0.222
B	6.35	6.65	0.250	0.262
C	3.95	4.05	0.156	0.159
D	3.40	3.70	0.134	0.146
E	4.25	4.55	0.167	0.179
F	1.69	1.99	0.067	0.078
G	2.95	3.25	0.116	0.128
H	0.70	1.00	0.028	0.039
I	0.75	1.05	0.030	0.041
J	1.69	1.99	0.067	0.078
K	1.00	1.20	0.039	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	0.92	0.036

MARKING DIAGRAM



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

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