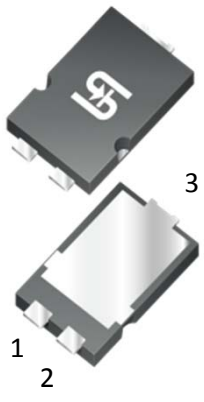
15A, 45V Trench Schottky Rectifier

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



SMPC4.0



Pb-Free

RoHS COMPLIANT

TYPICAL APPLICATIONS

Trench Schottky barrier rectifier is designed for high frequency switched mode power supplies such as adapters, lighting, and 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 2 whisker test

Polarity: Indicated by cathode band

Weight: 95mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)							
PARAMETER			SYMBOL	TSPB15U45S			UNIT
Marking code				B15U45			
Maximum repetitive peak reverse voltage			V_{RRM}	45			V
Maximum average forward rectified current			$I_{F(AV)}$	15			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load			I_{FSM}	200			A
			V_F	MIN.	TYP.	MAX.	
Instantaneous forward voltage (Note 1)	I_F = 15A	T_J = 25°C		-	0.48	0.56	V
		T_J = 125°C		-	0.39	0.45	
Instantaneous reverse current at rated reverse voltage		T_J = 25°C	I_R	-	-	300	μA
		T_J = 125°C		-	40	150	mA
Maximum DC reverse voltage			V_{DC}	35			V
Typical thermal resistance			$R_{\theta JL}$	8			°C/W
Operating temperature range			T_J	- 55 to +150			°C
Storage temperature range			T_{STG}	- 55 to +150			°C

Note1: Pulse test with pulse width = 300μs, 1% duty cycle

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSPB15U45S	S1	G	SMPC4.0	1,500/ 7" Plastic reel
	S2		SMPC4.0	6,000/ 13" Plastic reel

Note: Whole series with green compound

EXAMPLE				
EXAMPLE PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSPB15U45S S1G	TSPB15U45S	S1	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

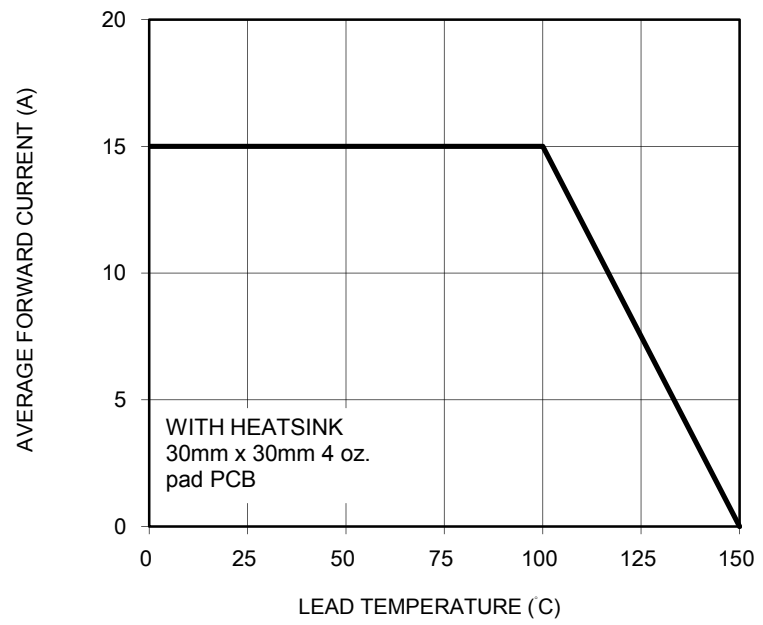


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

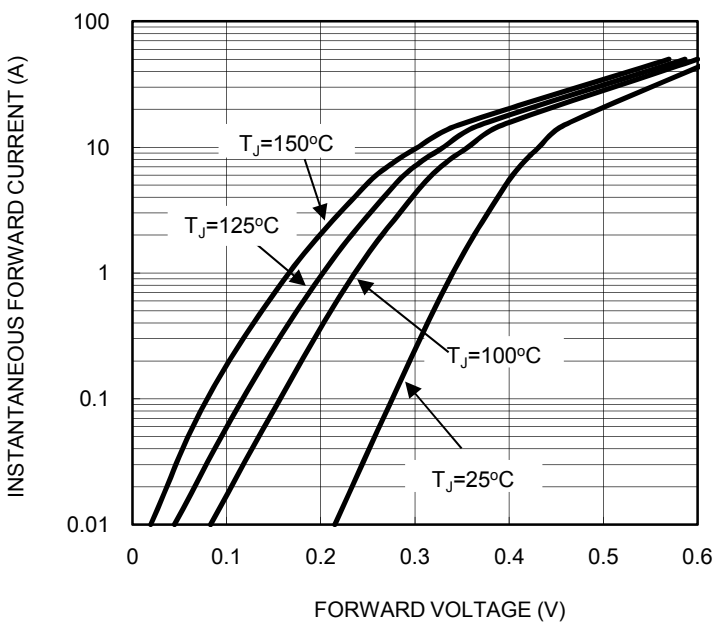


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

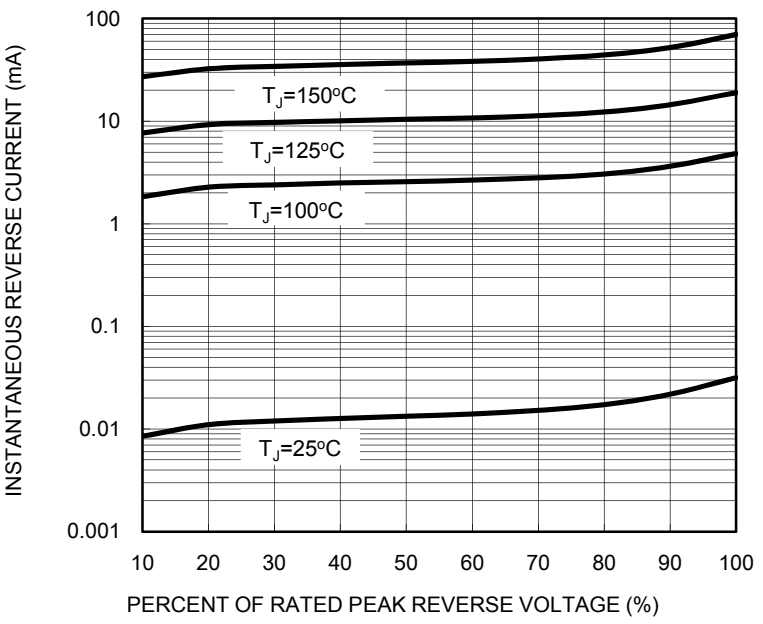
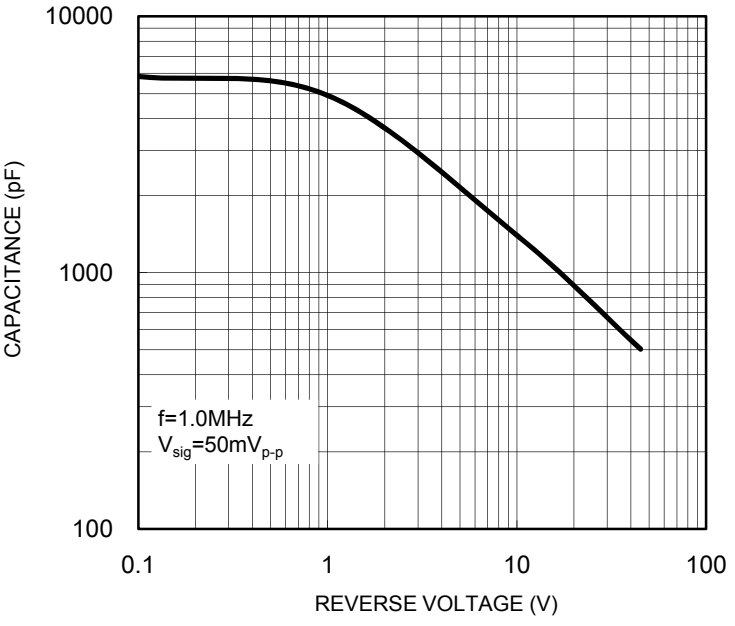
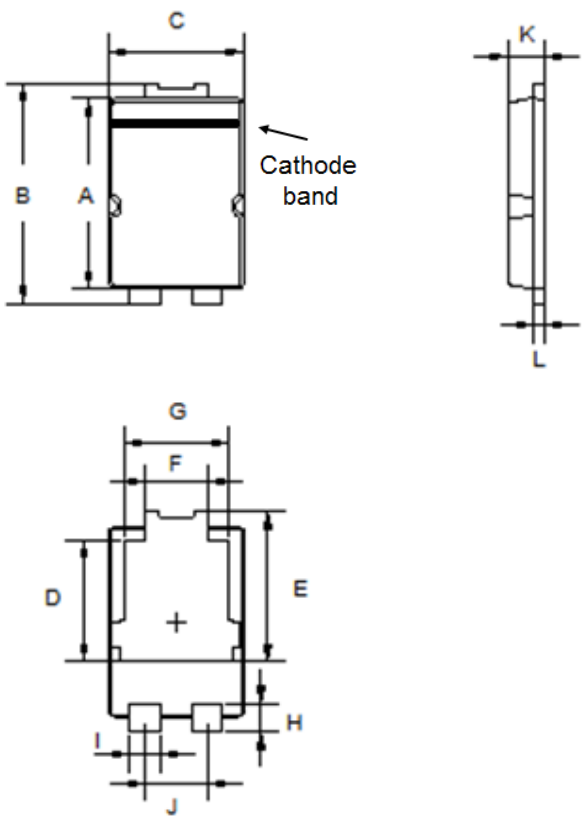


FIG. 4 TYPICAL JUNCTION CAPACITANCE



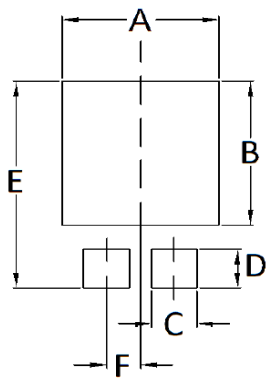
PACKAGE OUTLINE DIMENSIONS

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	0.92	0.036

MARKING DIAGRAM



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

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