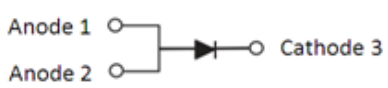
Trench Schottky Rectifier

FEATURES

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Lower 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

TO-277A (SMPC)



Pb-Free

RoHS COMPLIANT

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: TO-277A (SMPC)

Molding compound meets UL 94 V-0 flammability rating

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: 0.095g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

PARAMETER			SYMBOL	TSP20U60S			UNIT
Marking code				20U60			
Maximum repetitive peak reverse voltage			V_{RRM}	60			V
Maximum average forward rectified current			$I_{F(AV)}$	20			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load			I_{FSM}	280			A
Instantaneous forward voltage (Note 1)			V_F	MIN	TYP	MAX	
	I_F = 10A	T_J = 25°C		-	0.43	-	V
	I_F = 20A			-	0.48	0.58	
	I_F = 10A	T_J = 125°C		-	0.33	-	
	I_F = 20A			-	0.42	0.52	
Instantaneous reverse current at rated reverse voltage		T_J = 25°C	I_R	-	-	500	μA
		T_J = 125°C		-	-	100	mA
Typical thermal resistance			$R_{\theta JL}$	10			°C/W
Operating junction temperature range			T_J	- 55 to +150			°C
Storage temperature range			T_{STG}	- 55 to +150			°C

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

TSP20U60S C0G
- C0G → Green compound code
- Packing code
- TSP20U60S → Part no.

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

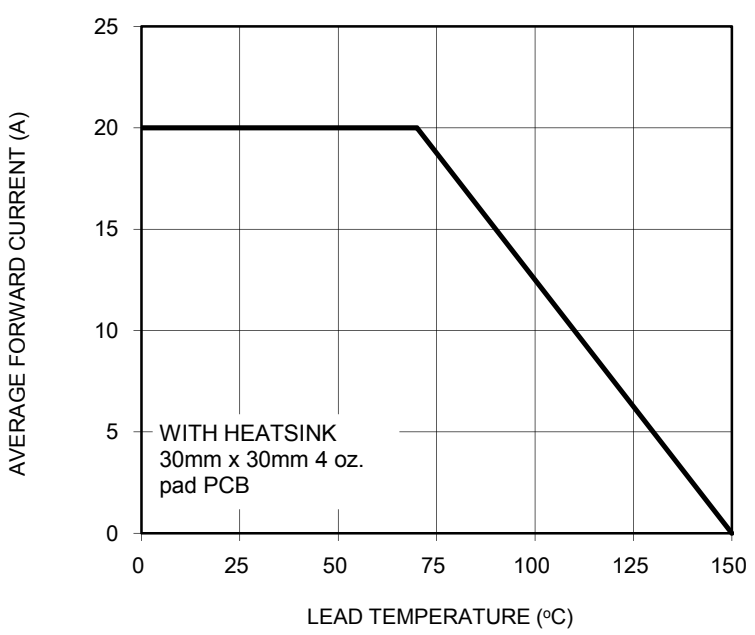


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

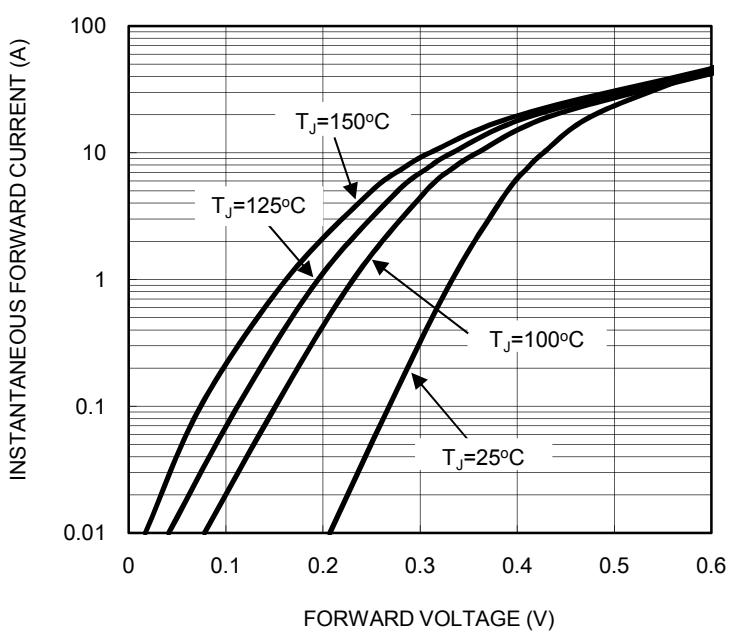


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

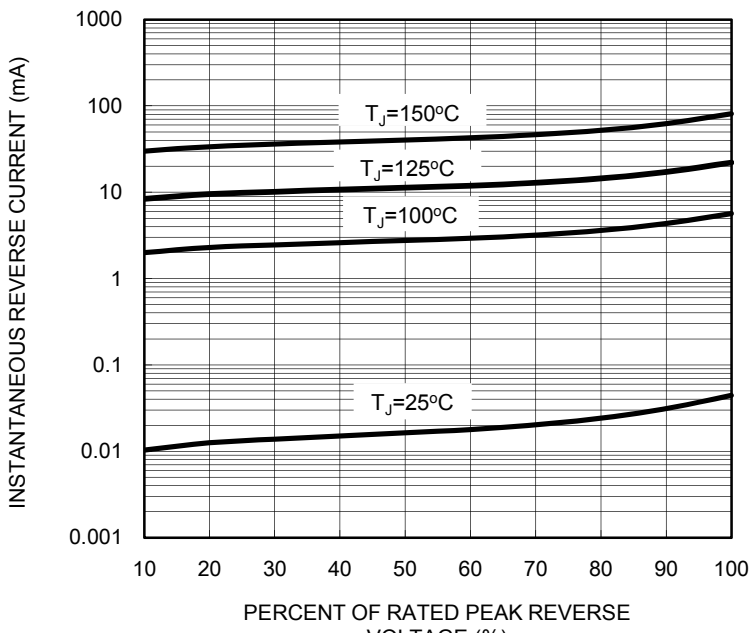
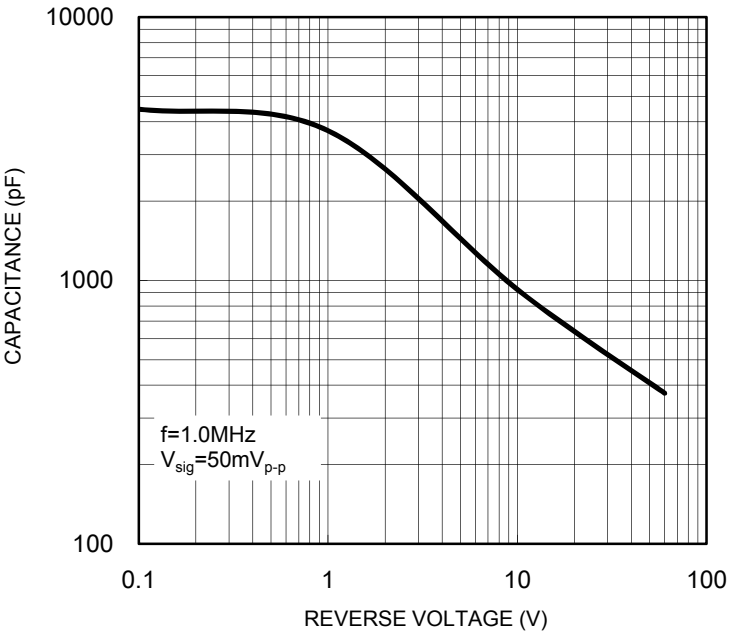
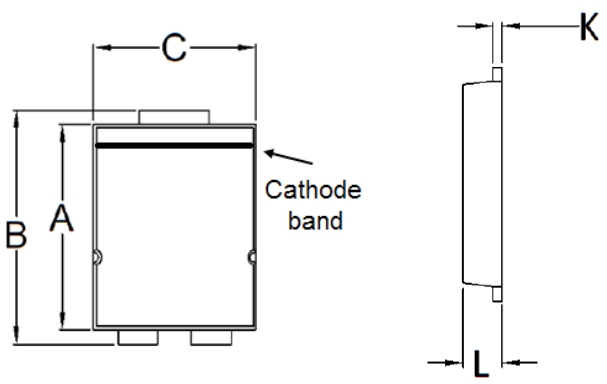


FIG. 4 TYPICAL JUNCTION CAPACITANCE



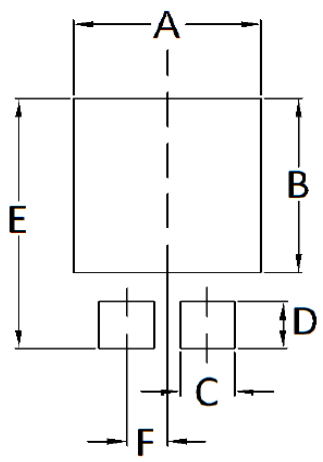
PACKAGE OUTLINE DIMENSIONS

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

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

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