10A, 60V 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
- 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

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 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.095g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)							
PARAMETER			SYMBOL	TSP10U60S			UNIT
Marking code				10U60			
Maximum repetitive peak reverse voltage			V_{RRM}	60			V
Maximum average forward rectified current			$I_{F(AV)}$	10			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load			I_{FSM}	280			A
Maximum instantaneous forward voltage (Note 1)			V_F	MIN	TYP	MAX	
	I_F = 5A	T_J = 25°C		-	0.40	-	V
	I_F = 10A	T_J = 25°C		-	0.47	0.54	V
	I_F = 10A	T_J = 125°C		-	0.43	0.47	V
Maximum instantaneous reverse current at rated reverse voltage		T_J = 25°C	I_R	-	80	300	μA
		T_J = 125°C		-	-	100	mA
Maximum DC reverse voltage			V_{DC}	42			V
Typical thermal resistance			$R_{\theta JL}$	5			°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=300 μs, 1% Duty Cycle

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSP10U60S	S1	G	SMPC	1,500/ 7" Plastic reel
	S2		SMPC	6,000/ 13" Plastic reel

Note: Whole series with green compound

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSP10U60S S1G	TSP10U60S	S1	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

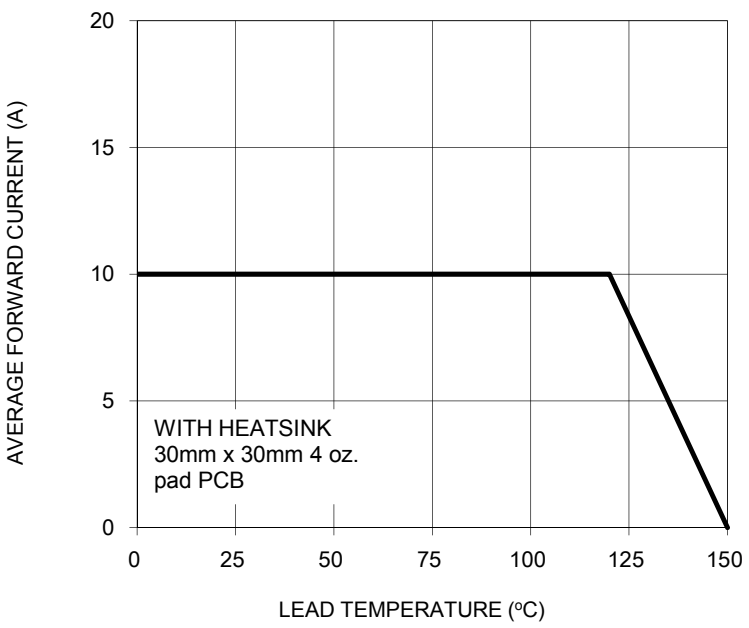


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

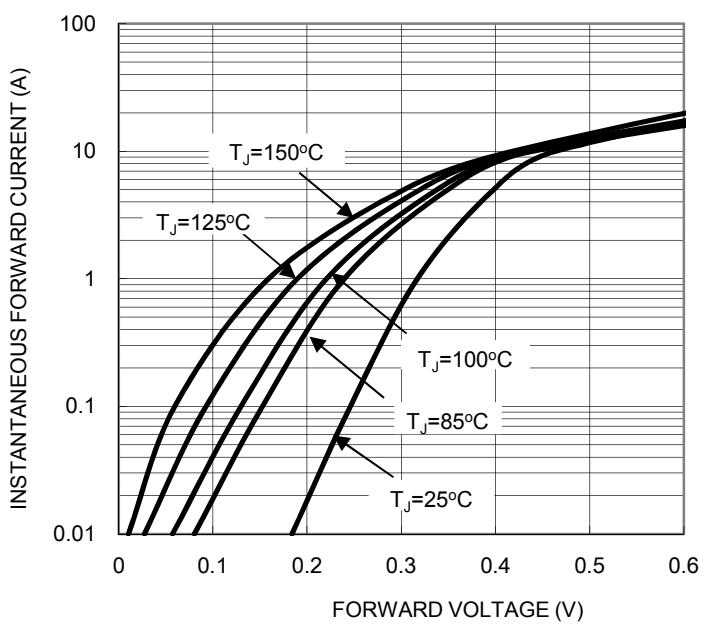


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

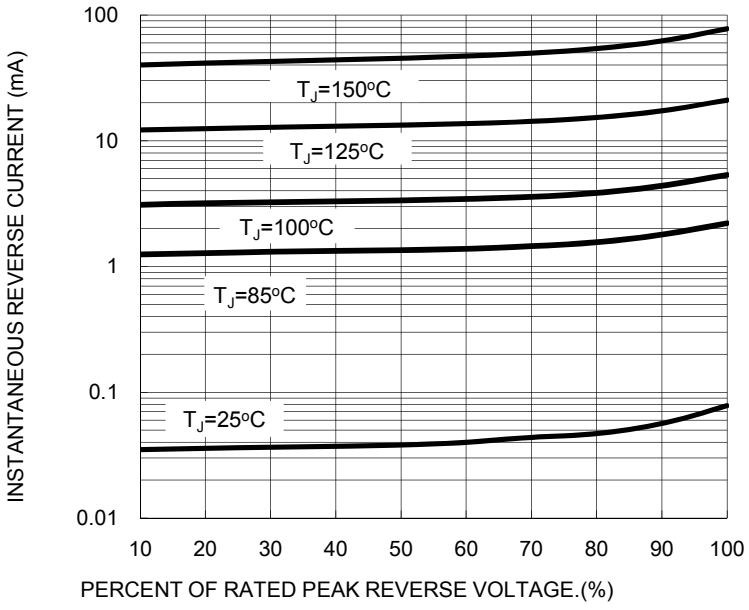


FIG. 4 TYPICAL JUNCTION CAPACITANCE

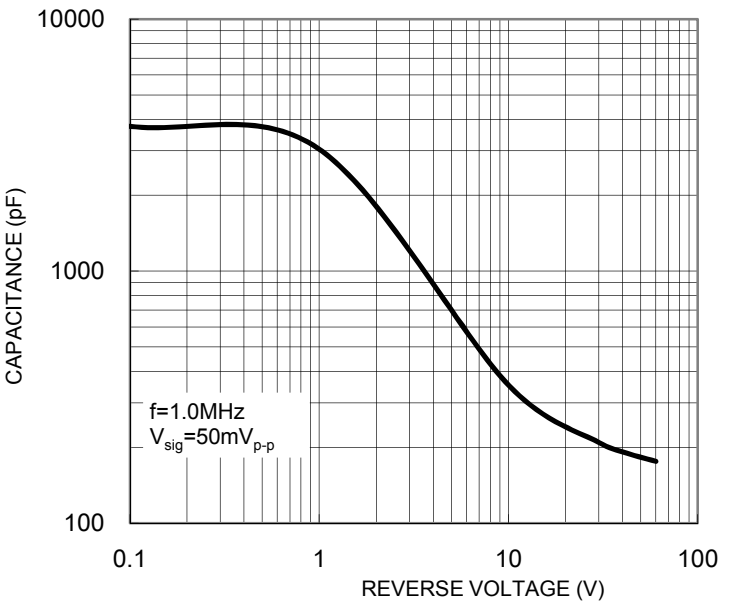
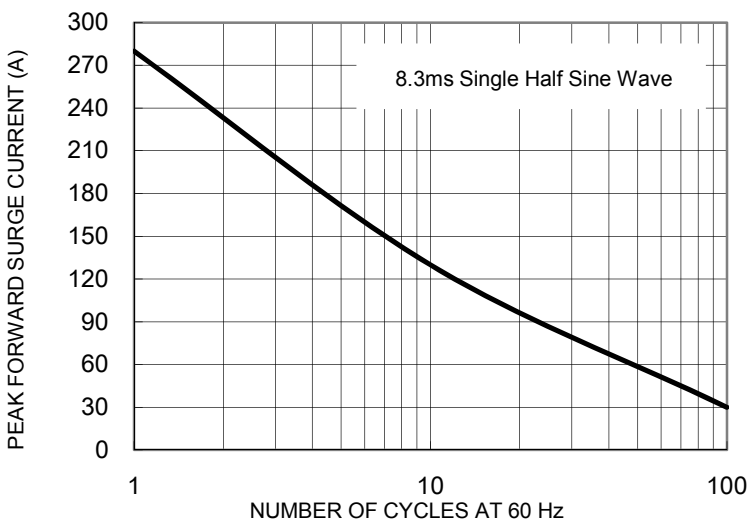
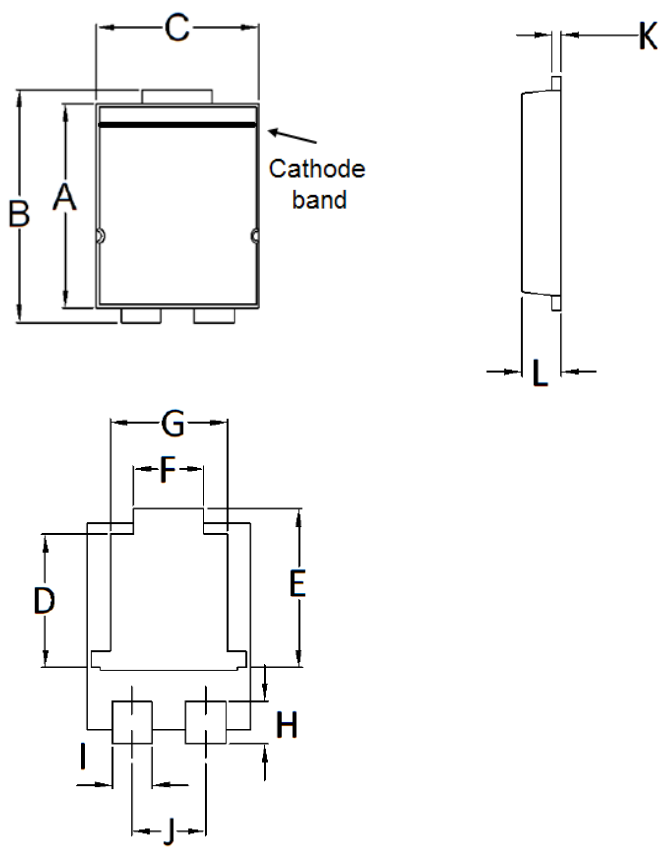


FIG. 5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



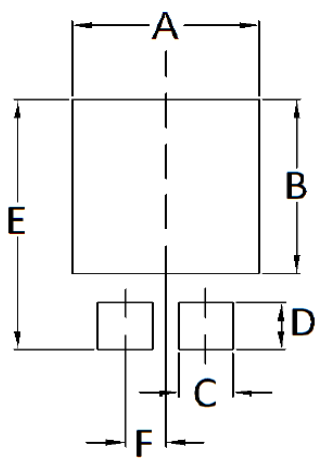
PACKAGE OUTLINE DIMENSIONS

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

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

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