

## 5A, 50V - 60V Trench Schottky Rectifiers

### FEATURES

- Patented Trench Schottky technology
- Low power loss/ high efficiency
- Ideal for automated placement
- Guardring for overvoltage protection
- High forward surge capability
- 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


**DO-214AC (SMA)**


### 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:** DO-214AC (SMA)

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:** Indicated by cathode band

**Weight:** 0.06 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25°C unless otherwise noted)								
PARAMETER		SYMBOL	TSSA5U50		TSSA5U60		UNIT	
Marking code			5U50		5U60			
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	50		60		V	
Maximum average forward rectified current		I <sub>F(AV)</sub>	5				A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load		I <sub>FSM</sub>	75				A	
			TYP.	MAX.	TYP.	MAX.		
Instantaneous forward voltage (Note 1)	I <sub>F</sub> = 5A	V <sub>F</sub>	T <sub>J</sub> = 25°C	0.44	0.54	0.48	0.56	V
			T <sub>J</sub> = 125°C	0.39	0.49	0.44	0.52	
Maximum instantaneous reverse current at rated reverse voltage		I <sub>R</sub>	T <sub>J</sub> = 25°C	300			μA	
			T <sub>J</sub> = 125°C	50			mA	
Typical thermal resistance		R <sub>θJL</sub>	25		28		°C/W	
		R <sub>θJA</sub>	70					
Operating temperature range		T <sub>J</sub>	- 55 to +150				°C	
Storage temperature range		T <sub>STG</sub>	- 55 to +150				°C	

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

**ORDERING INFORMATION**

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSSA5UXX (Note 1, 2)	E3	G	Clip SMA	1,800 / 7" Plastic reel
	E2		Clip SMA	7,500 / 13" Plastic reel

Note 1: "XX" defines voltage from 50V (TSSA5U50) to 60V (TSSA5U60)

Note 2: Whole series with green compound

**EXAMPLE**

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSSA5U60 E3G	TSSA5U60	E3	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1 FORWARD CURRENT DERATING CURVE

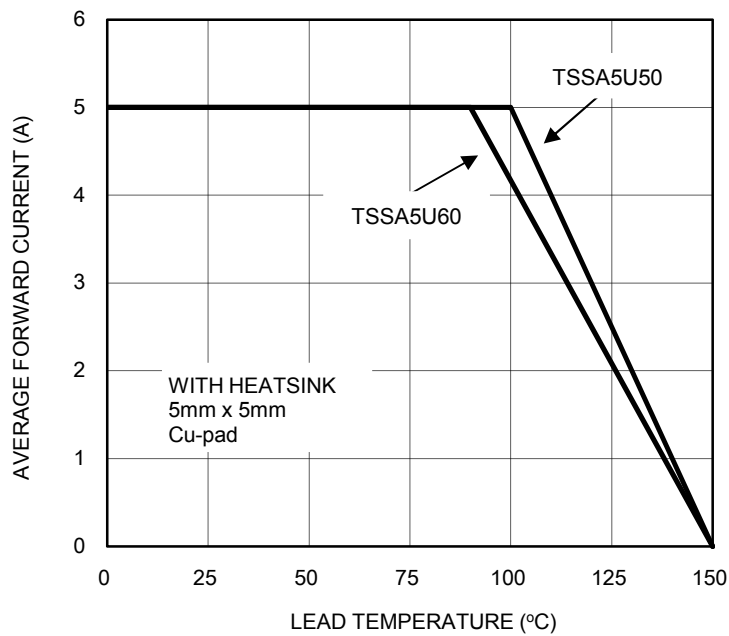


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

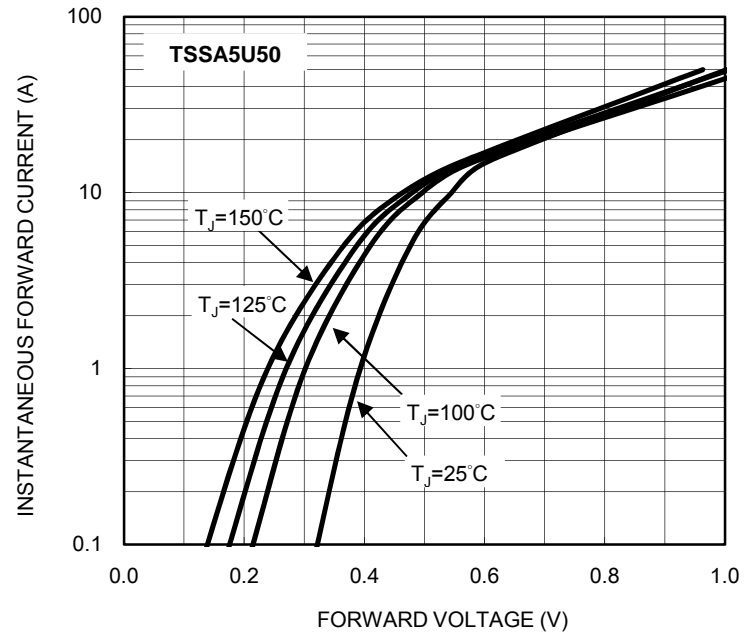


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

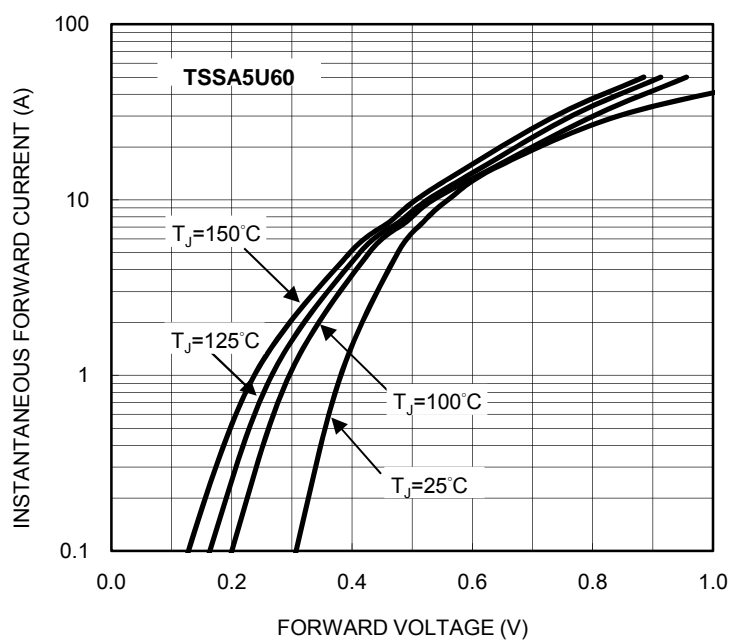


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

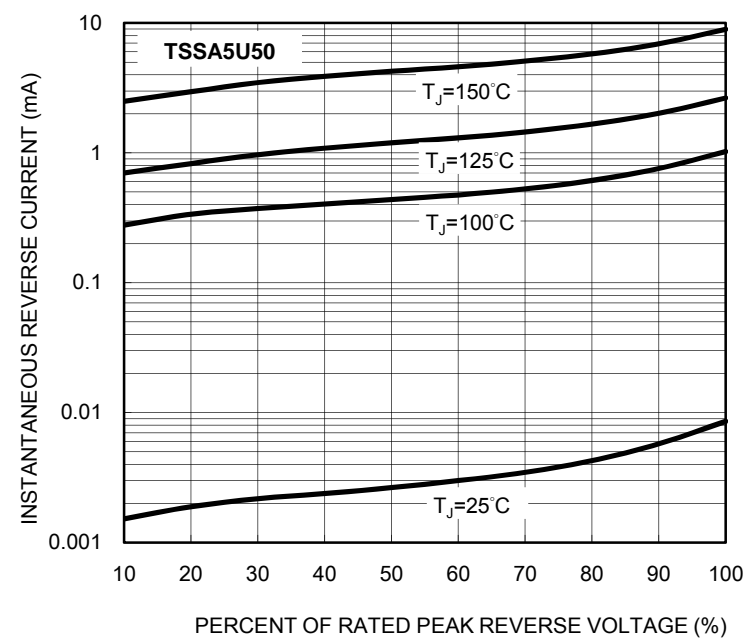


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

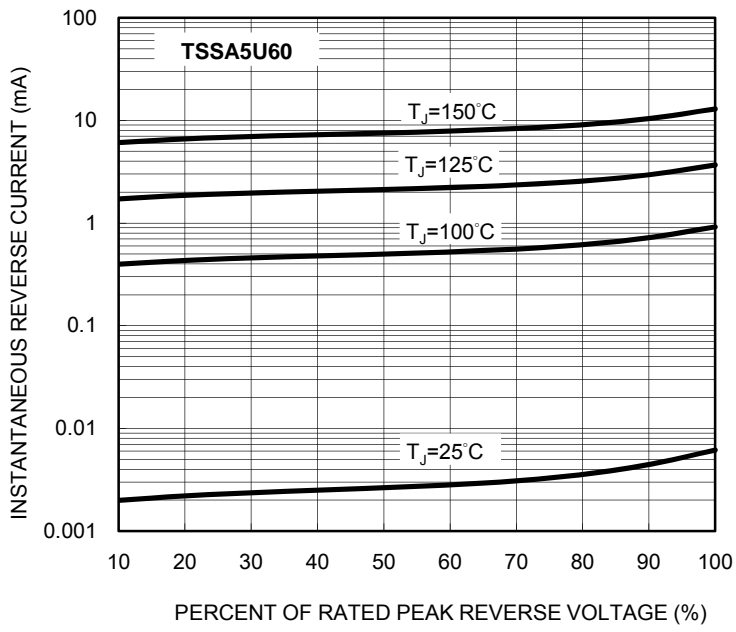


FIG. 6 TYPICAL JUNCTION CAPACITANCE

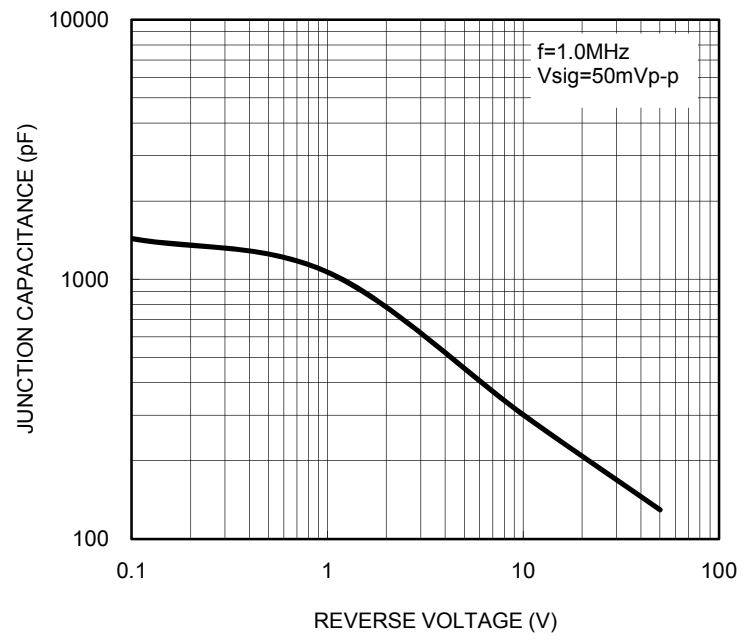
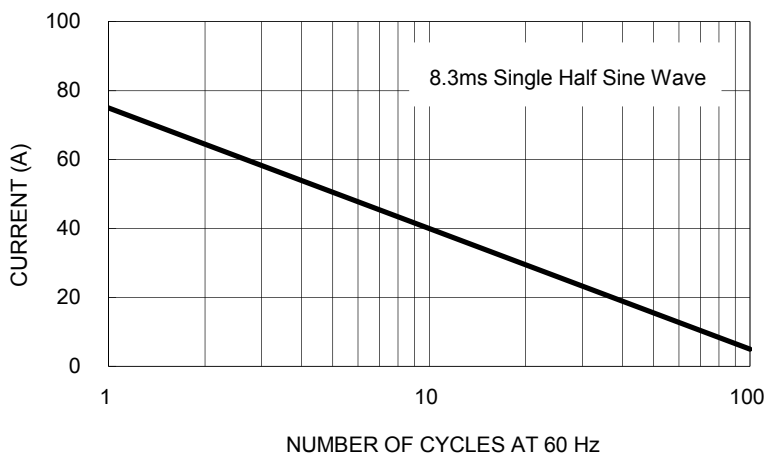
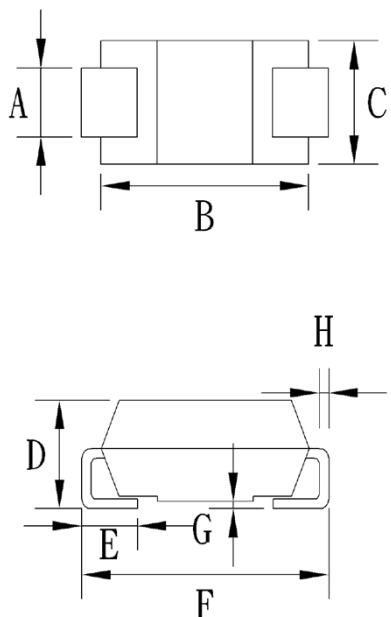


FIG. 7 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

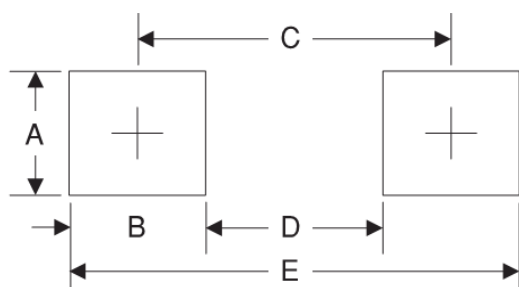


PACKAGE OUTLINE DIMENSIONS  
**DO-214AC (SMA)**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.27	1.58	0.050	0.062
B	4.06	4.60	0.160	0.181
C	2.29	2.83	0.090	0.111
D	1.99	2.50	0.078	0.098
E	0.90	1.41	0.035	0.056
F	4.95	5.33	0.195	0.210
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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