

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 _A = 25°C unless otherwise noted)								
PARAMETER			SYMBOL	TSSA5U50		TSSA5U60		UNIT
Marking code				5U50		5U60		
Maximum repetitive peak reverse voltage			V _{RRM}	50		60		V
Maximum average forward rectified current			I _{F(AV)}	5				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load			I _{FSM}	75				A
				TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage (Note 1)	I _F = 5A	T _J = 25°C	V _F	0.44	0.54	0.48	0.56	V
		T _J = 125°C		0.39	0.49	0.44	0.52	
Maximum instantaneous reverse current at rated reverse voltage		T _J = 25°C	I _R	300				μA
		T _J = 125°C		50				mA
Typical thermal resistance			R _{θJL}	25		28		°C/W
			R _{θJA}	70				
Operating 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

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

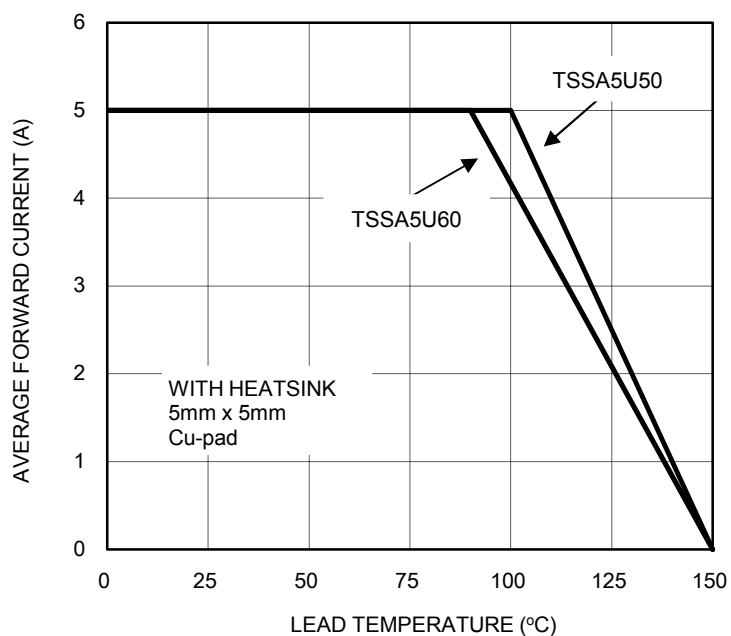


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

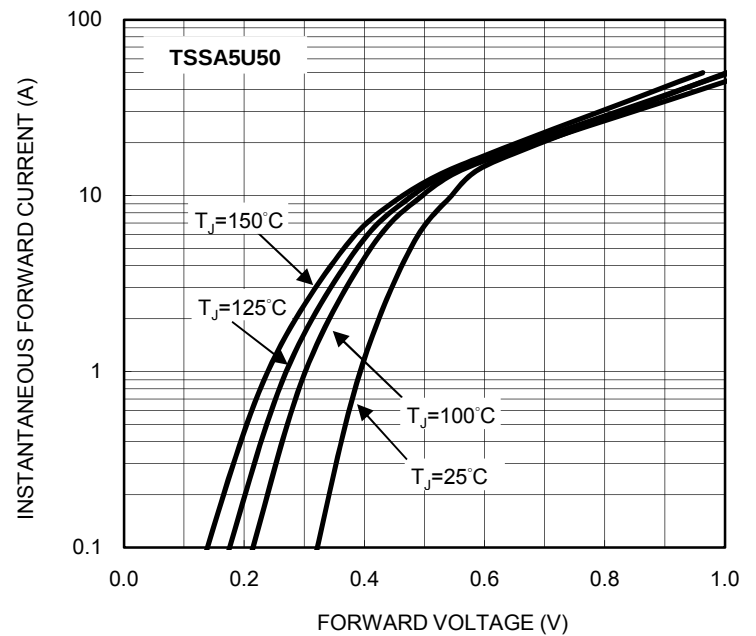


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

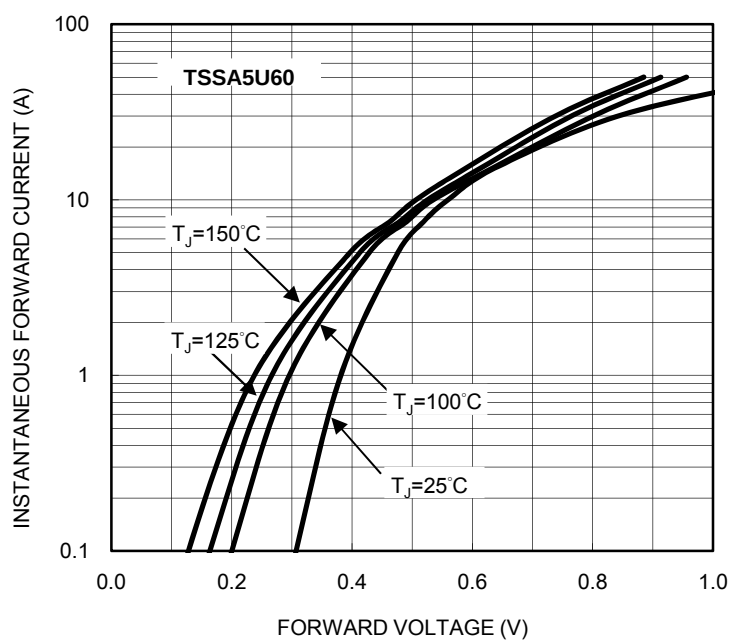


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

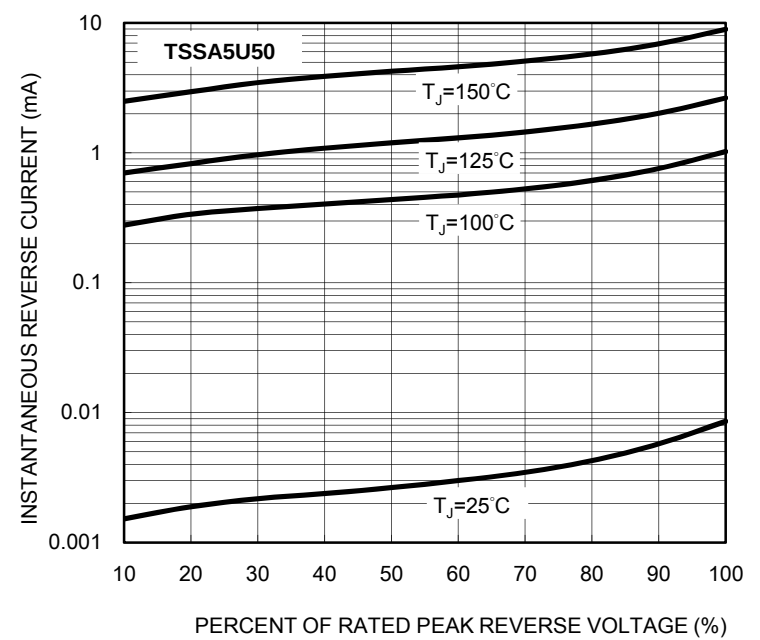


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

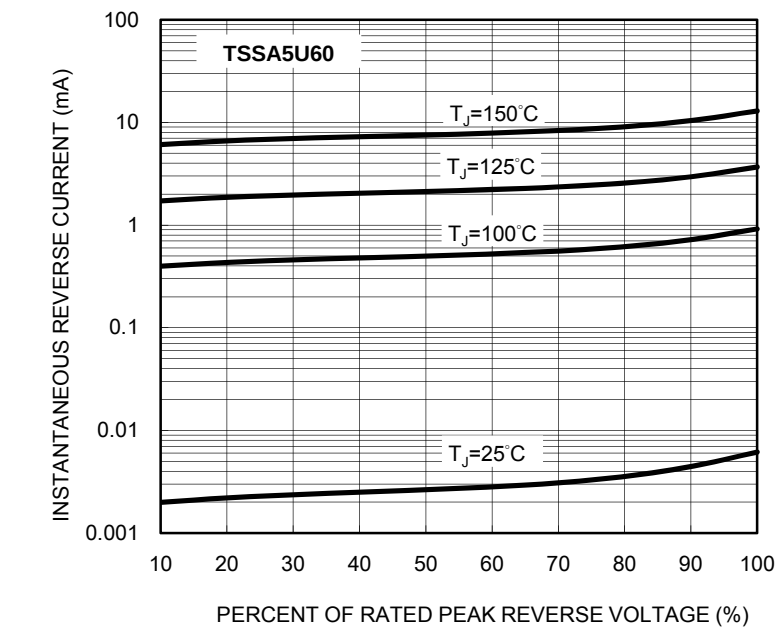


FIG. 6 TYPICAL JUNCTION CAPACITANCE

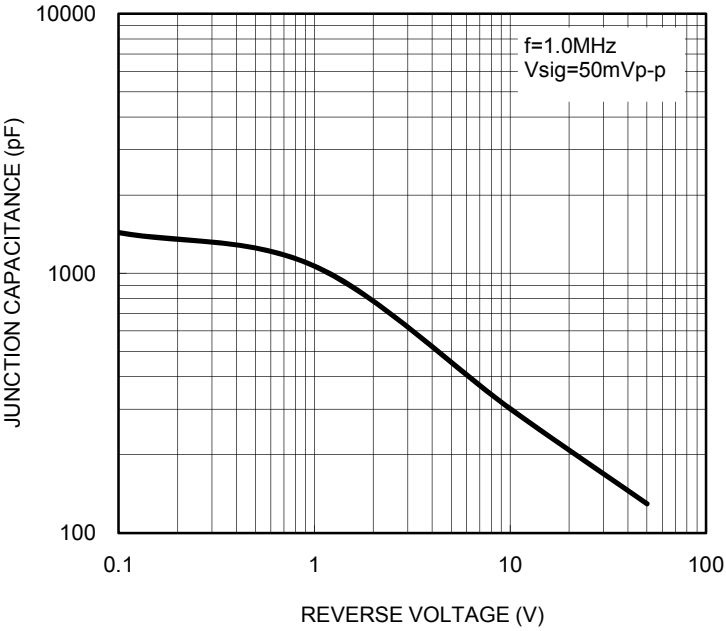
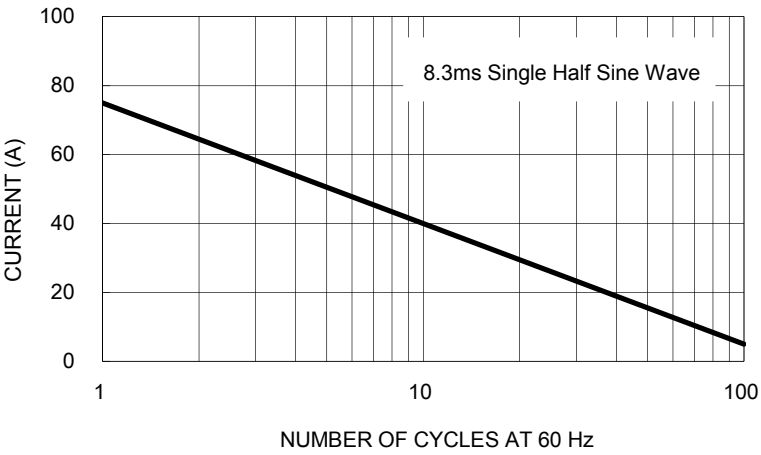
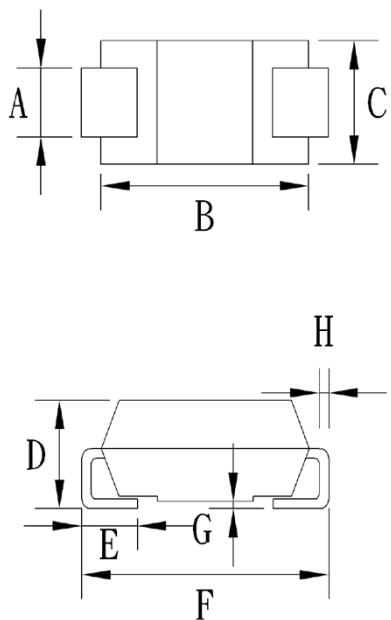


FIG. 7 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

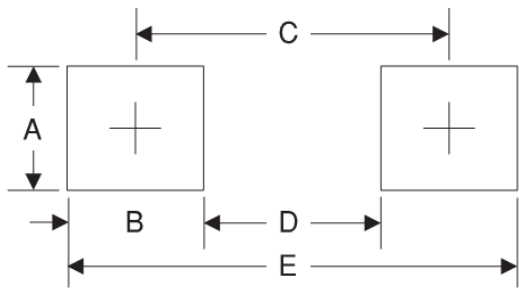


PACKAGE OUTLINE DIMENSIONS
DO-214AC (SMA)



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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