



THE DATASHEET OF TSSA5U50



5A, 50V - 60V Trench Schottky Surface Mount Rectifier

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High forward surge capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

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 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.060g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	5	A
V_{RRM}	50 - 60	V
I_{FSM}	75	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	



DO-214AC (SMA)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	TSSA5U50	TSSA5U60	UNIT
Marking code on the device		5U50	5U60	
Repetitive peak reverse voltage	V_{RRM}	50	60	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	42	V
Forward current	I_F	5		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	75		A
Junction temperature	T_J	- 55 to +150		°C
Storage temperature	T_{STG}	- 55 to +150		°C

THERMAL PERFORMANCE				
PARAMETER		SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	TSSA5U50	R _{θJL}	25	°C/W
	TSSA5U60		28	°C/W
Junction-to-ambient thermal resistance		R _{θJA}	70	°C/W

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	TSSA5U50	I _F = 5A, T _J = 25°C	V _F	0.49	0.54	V
	TSSA5U60			0.53	0.56	V
	TSSA5U50	I _F = 5A, T _J = 125°C		0.42	0.49	V
	TSSA5U60			0.49	0.52	V
Reverse current @ rated V _R ⁽²⁾		T _J = 25°C	I _R	-	300	μA
		T _J = 125°C		-	50	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	PACKAGE	PACKING
TSSA5Ux	DO-214AC (SMA)	7,500 / Tape & Reel

Notes:

1. "x" defines voltage from 50V(TSSA5U50) to 60V(TSSA5U60)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

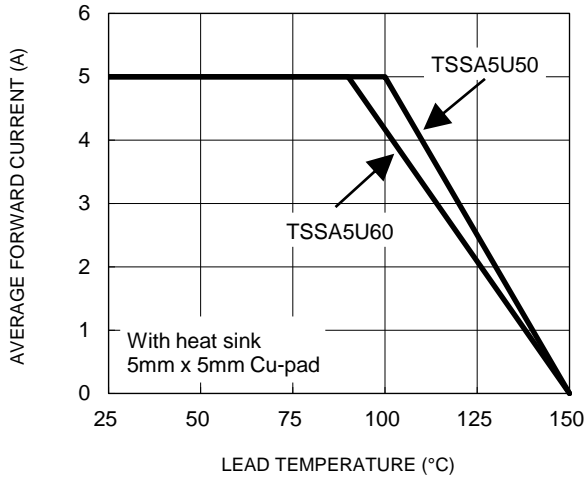


Fig.2 Typical Junction Capacitance

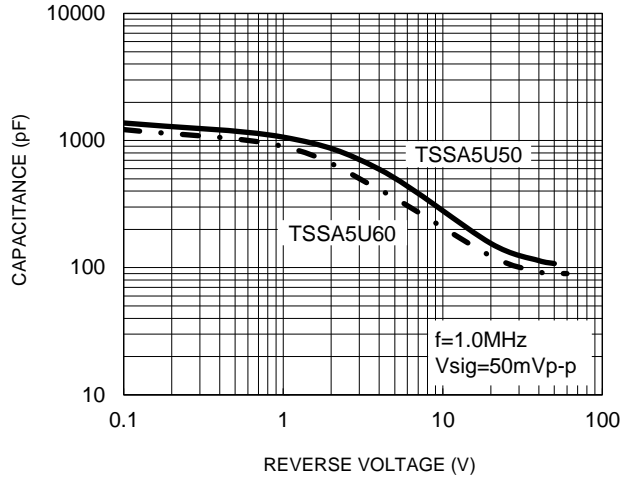


Fig.3 Typical Reverse Characteristics

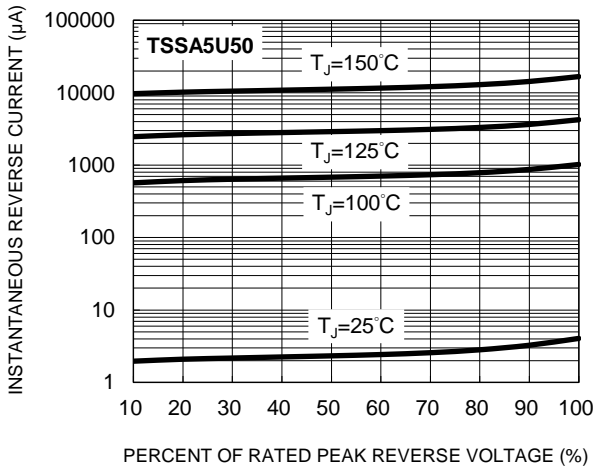


Fig.4 Typical Forward Characteristics

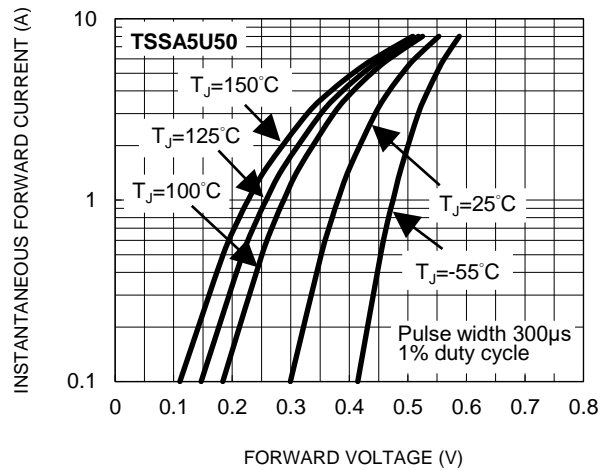


Fig.5 Typical Reverse Characteristics

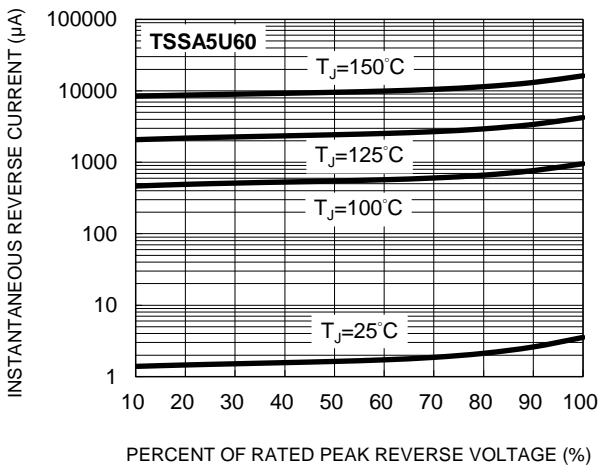
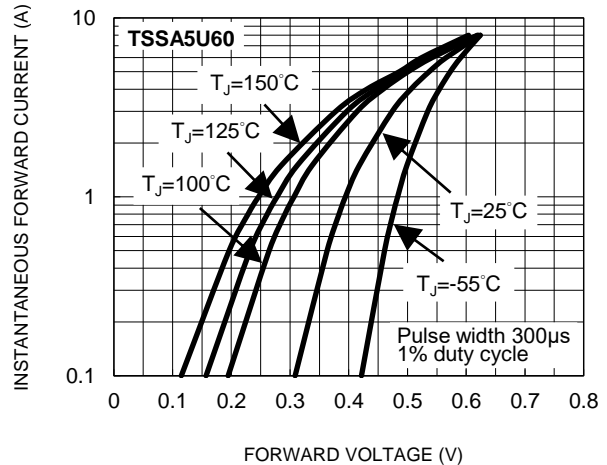


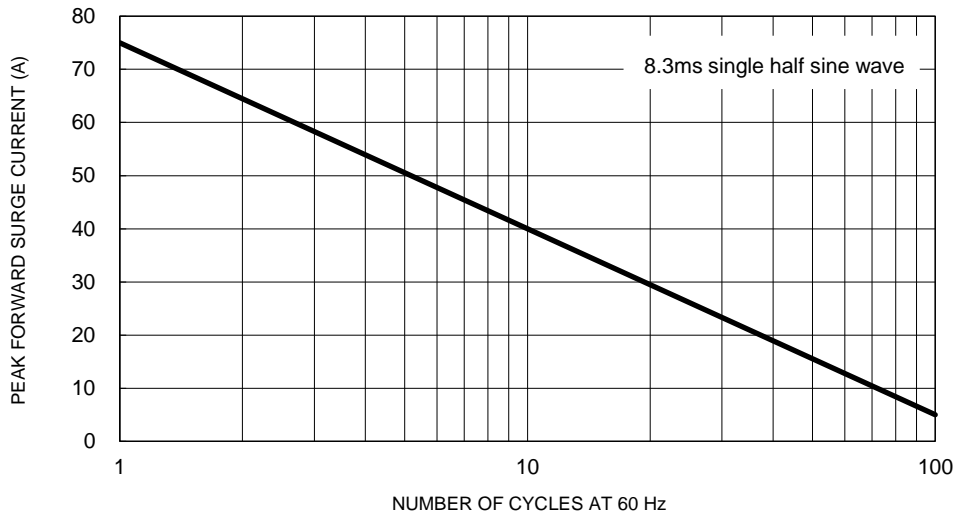
Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

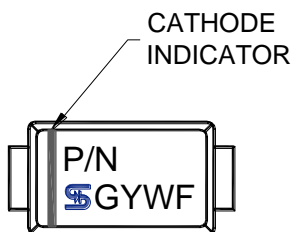
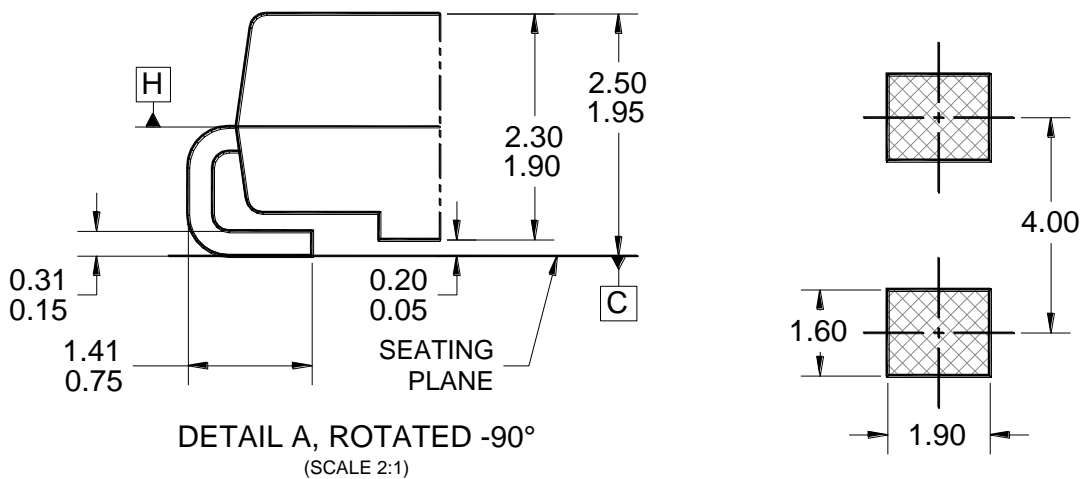
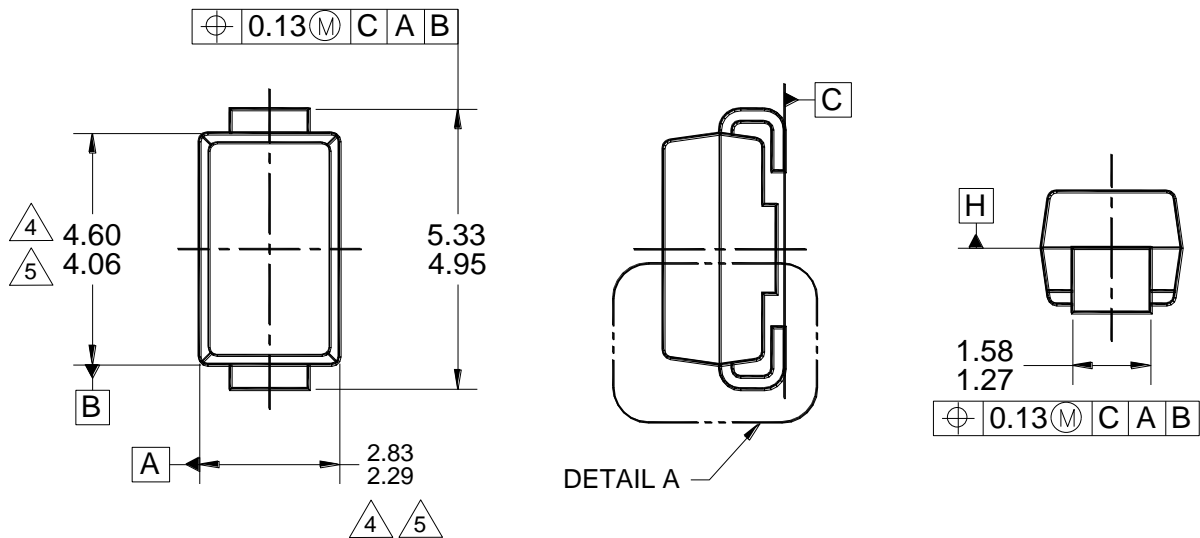
(T_A = 25°C unless otherwise noted)

Fig.7 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



MARKING DIAGRAM

P/N = MARKING CODE
G = GREEN COMPOUND
YW = DATE CODE
F = FACTORY CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-214, VARIATION AC, ISSUE D.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
6. DWG NO. REF: HQ2SD07-DO214SMC-034 REV A.

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