3A, 45V Trench Schottky Surface Mount Rectifier

FEATURES

- Low power loss, high efficiency
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

- Trench Schottky barrier rectifier are designed for high frequency miniature switched mode power supplies such as adapters, lighting

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	3	A
V_{RRM}	45	V
I_{FSM}	50	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



DO-214AC (SMA)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TSSA3U45	UNIT
Marking code on the device		3U45	
Repetitive peak reverse voltage	V_{RRM}	45	V
Reverse voltage, total rms value	$V_{R(RMS)}$	31	V
Forward current	I_F	3	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Junction temperature	T_J	- 55 to +150	°C
Storage temperature	T_{STG}	- 55 to +150	°C

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THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	10	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	70	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 3A, T_J = 25°C	V_F	0.43	0.48	V
	I_F = 3A, T_J = 125°C		0.35	0.40	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	500	μA
	T_J = 125°C		-	100	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
TSSA3U45	DO-214AC (SMA)	7,500 / Tape & Reel

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CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

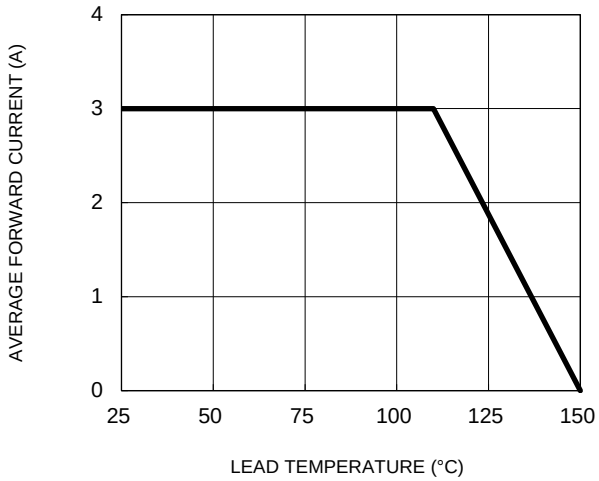


Fig.2 Typical Junction Capacitance

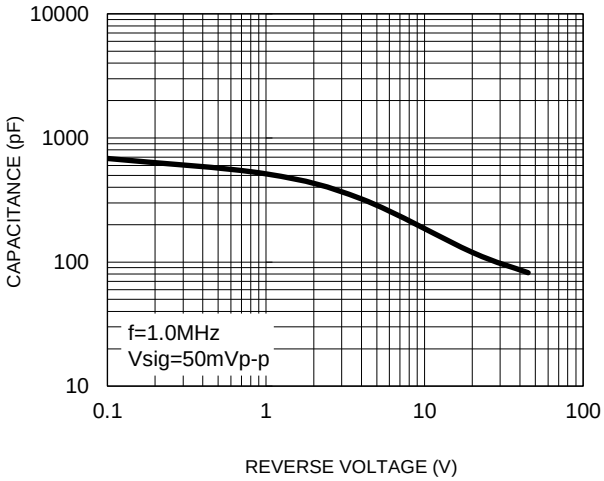


Fig.3 Typical Reverse Characteristics

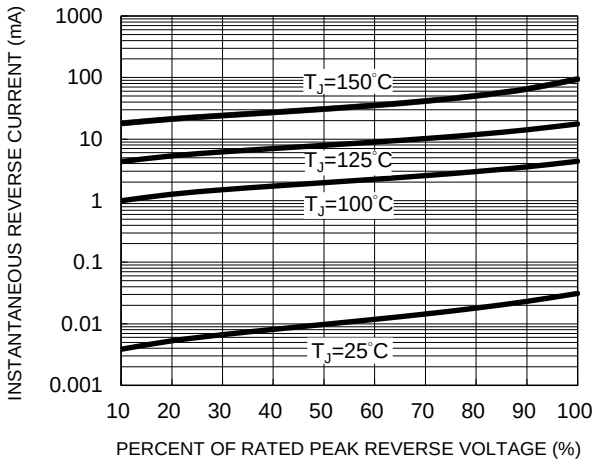
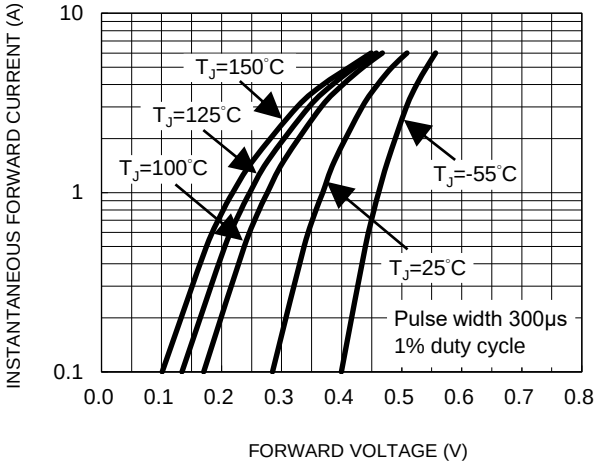


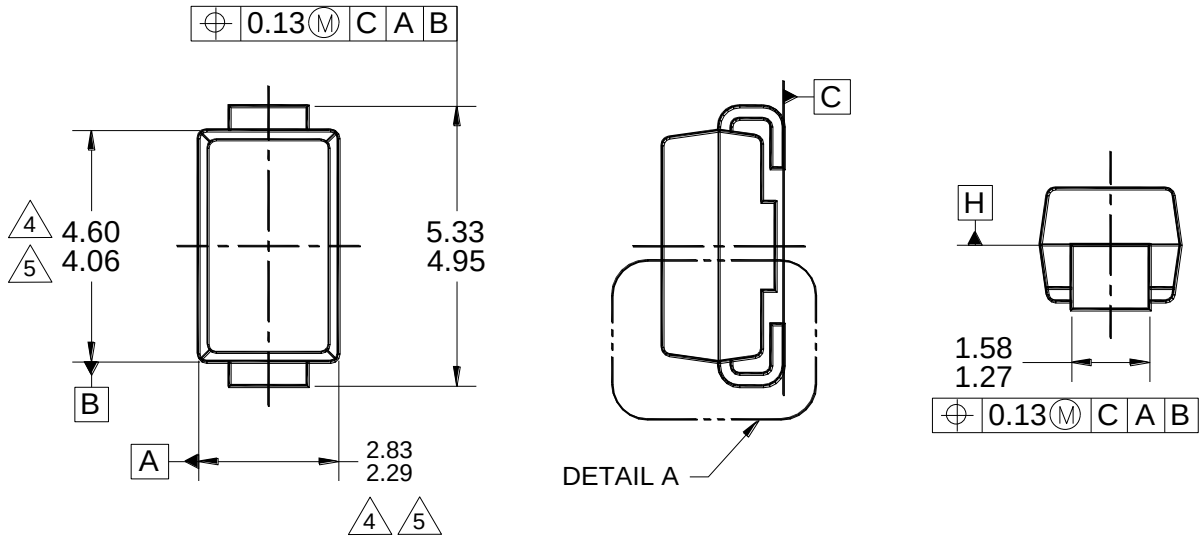
Fig.4 Typical Forward Characteristics

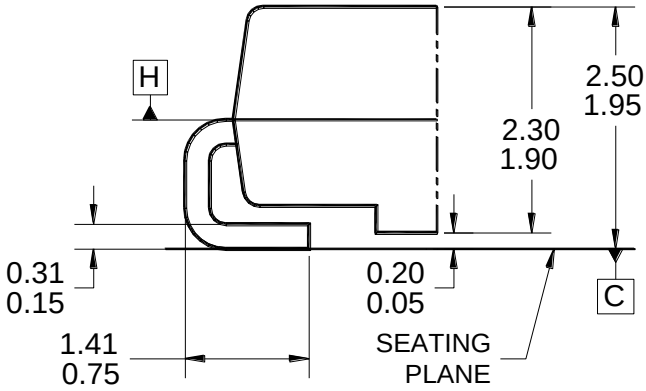


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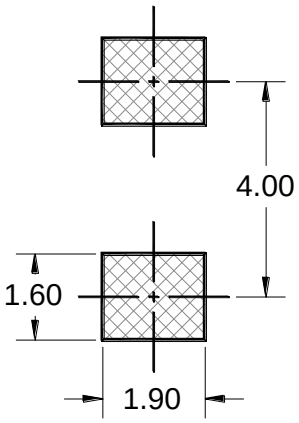
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)

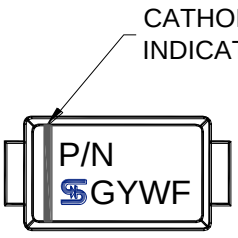




DETAIL A, ROTATED -90°
(SCALE 2:1)



SUGGESTED PAD LAYOUT



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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