1.5A, 50V - 1000V Fast Recovery Surface Mount Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Fast switching for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- Lighting application
- Snubber
- General purpose

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	1.5	A
V_{RRM}	50 - 1000	V
I_{FSM}	50	A
$T_{J\ MAX}$	175	°C
Package	DO-214AC (SMA)	
Configuration	Single die	

Pb Pb-Free RoHS COMPLIANT HALOGEN FREE



DO-214AC (SMA)



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

PARAMETER	SYMBOL	RS 2AA	RS 2BA	RS 2DA	RS 2GA	RS 2JA	RS 2KA	RS 2MA	UNIT
Marking code on the device		RS 2AA	RS 2BA	RS 2DA	RS 2GA	RS 2JA	RS 2KA	RS 2MA	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	I_F	1.5							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 +175							°C
Storage temperature	T_{STG}	- 55 to +175							°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	18	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	55	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)		I_F = 1.5A, T_J = 25°C	V_F	-	1.3	V
Reverse current @ rated V_R(2)		T_J = 25°C	I_R	-	5	μA
		T_J = 125°C		-	200	μA
Junction capacitance		1MHz, V_R = 4.0V	C_J	50	-	pF
Reverse recovery time	RS2AA RS2BA RS2DA RS2GA	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	-	150	ns
	RS2JA			-	250	ns
	RS2KA RS2MA			-	500	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
RS2xA	DO-214AC (SMA)	7,500 / Tape & Reel

Notes:

1. “x” defines voltage from 50V(RS2AA) to 1000V(RS2MA)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

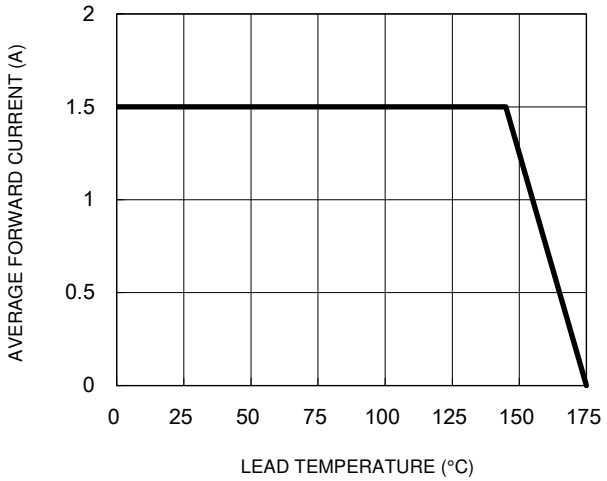


Fig.2 Typical Junction Capacitance

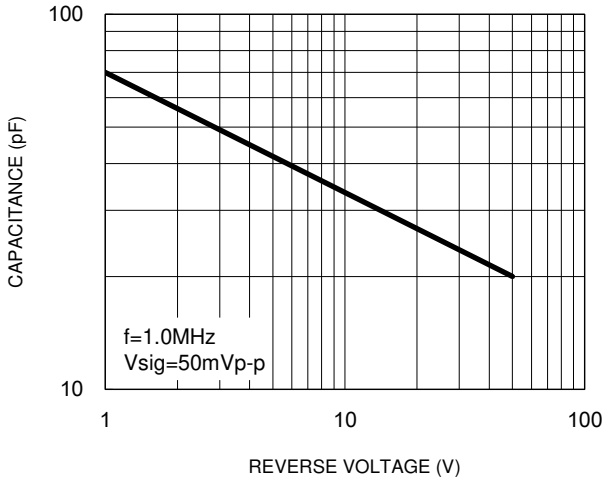


Fig.3 Typical Reverse Characteristics

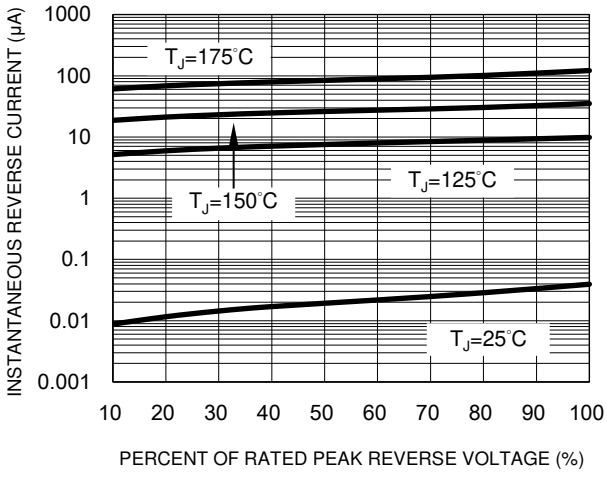


Fig.4 Typical Forward Characteristics

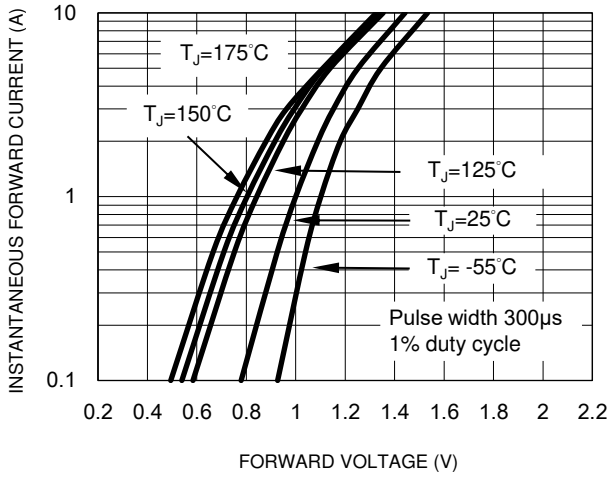
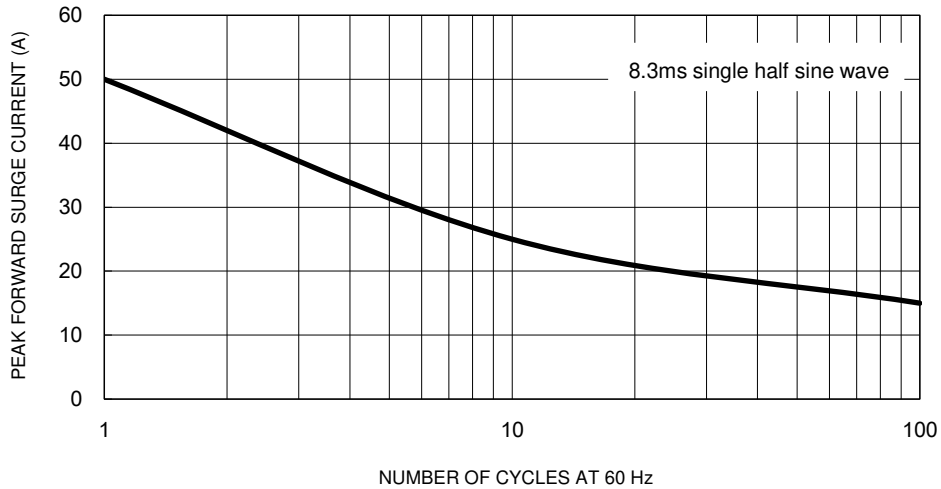


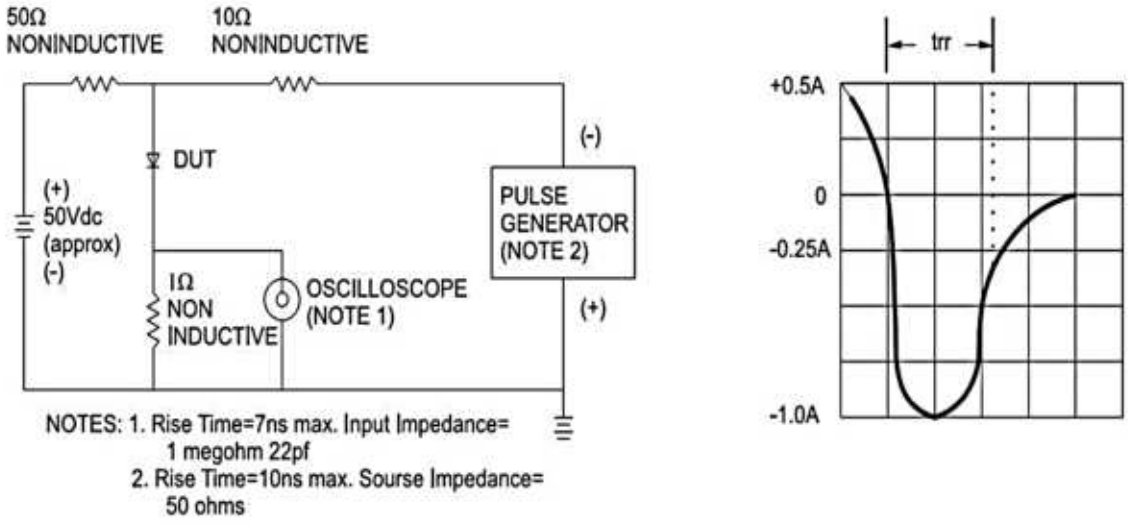
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

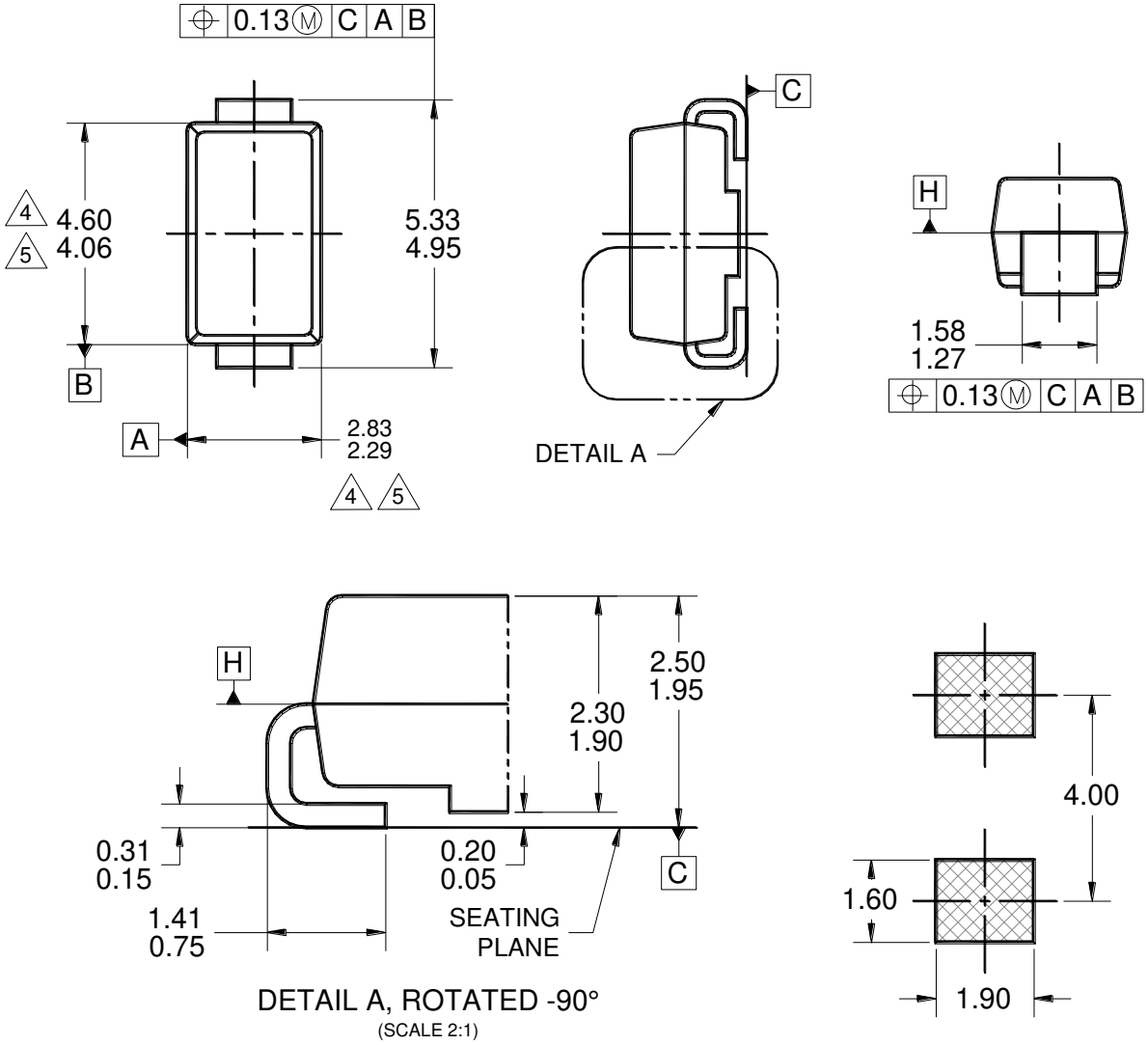
(T_A = 25°C unless otherwise noted)

Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram



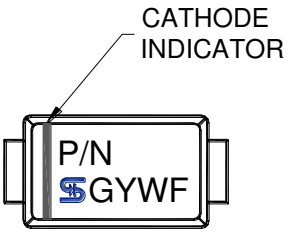
PACKAGE OUTLINE DIMENSIONS

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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