8A, 400V - 1000V Surface Mount Rectifier

FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- Converter

MECHANICAL DATA

- Case: DO-214AB (SMC)
- 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: 0.270g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	8	A
V_{RRM}	400 - 1000	V
I_{FSM}	200	A
$T_{J\ MAX}$	150	°C
Package	DO-214AB (SMC)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AB (SMC)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)							
PARAMETER		**SYMBOL**	**S8GC**	**S8JC**	**S8KC**	**S8MC**	**UNIT**
Marking code on the device			S8GC	S8JC	S8KC	S8MC	
Repetitive peak reverse voltage		V_{RRM}	400	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	280	420	560	700	V
Forward current		I_F	8				A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	T_J = 25°C	I_{FSM}	200				A
	T_J = 125°C		170				A
Surge peak forward current, 1.0ms single half sine-wave superimposed on rated load	T_J = 25°C	I_{FSM}	600				A
	T_J = 125°C		338				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	$R_{\Theta JL}$	12.5	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	44.0	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 8A, T_J = 25°C	V_F	-	0.985	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	10	μA
	T_J = 125°C		-	250	μA
Junction capacitance	1MHz, V_R = 4.0V	C_J	48	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
S8xC	DO-214AB (SMC)	3,000 / Tape & Reel

Notes:

1. “x” defines voltage from 400V(S8GC) to 1000V(S8MC)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

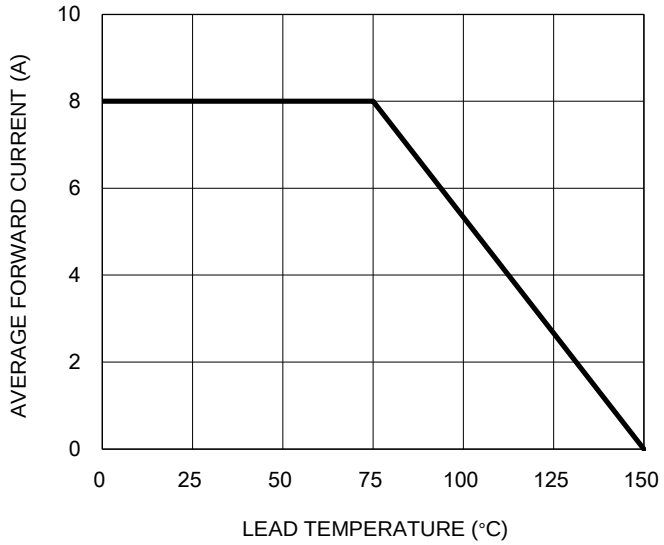


Fig.2 Maximum Non-repetitive Forward Surge Current

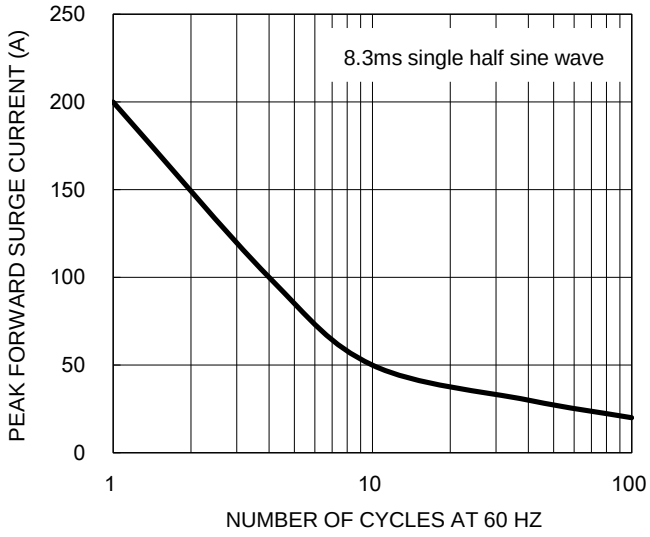


Fig.3 Typical Reverse Characteristics

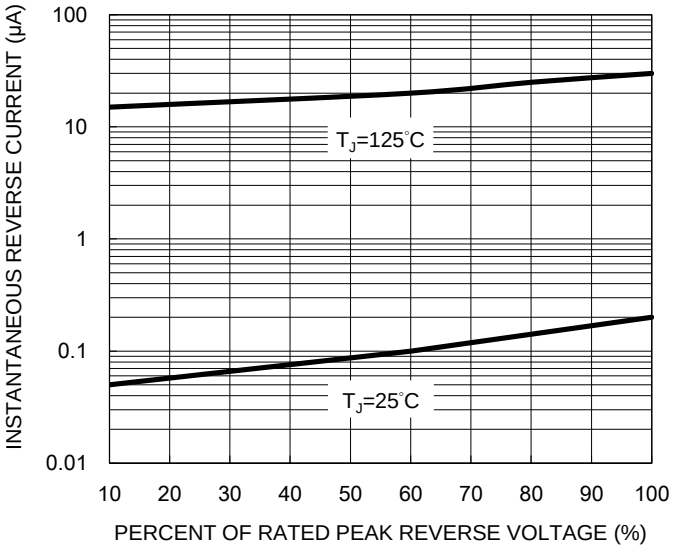
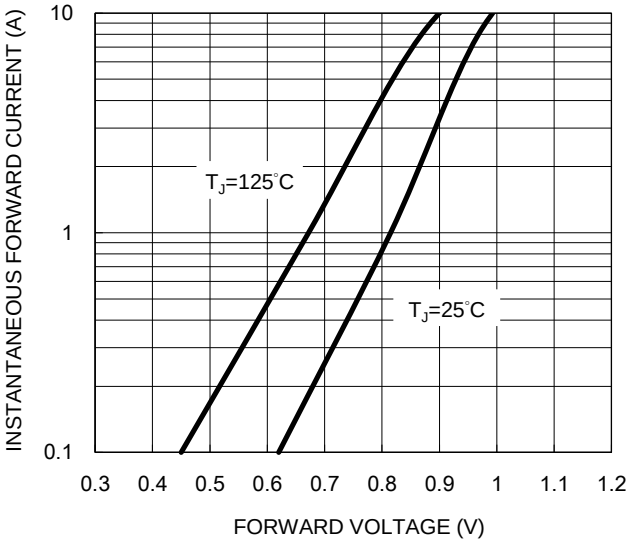
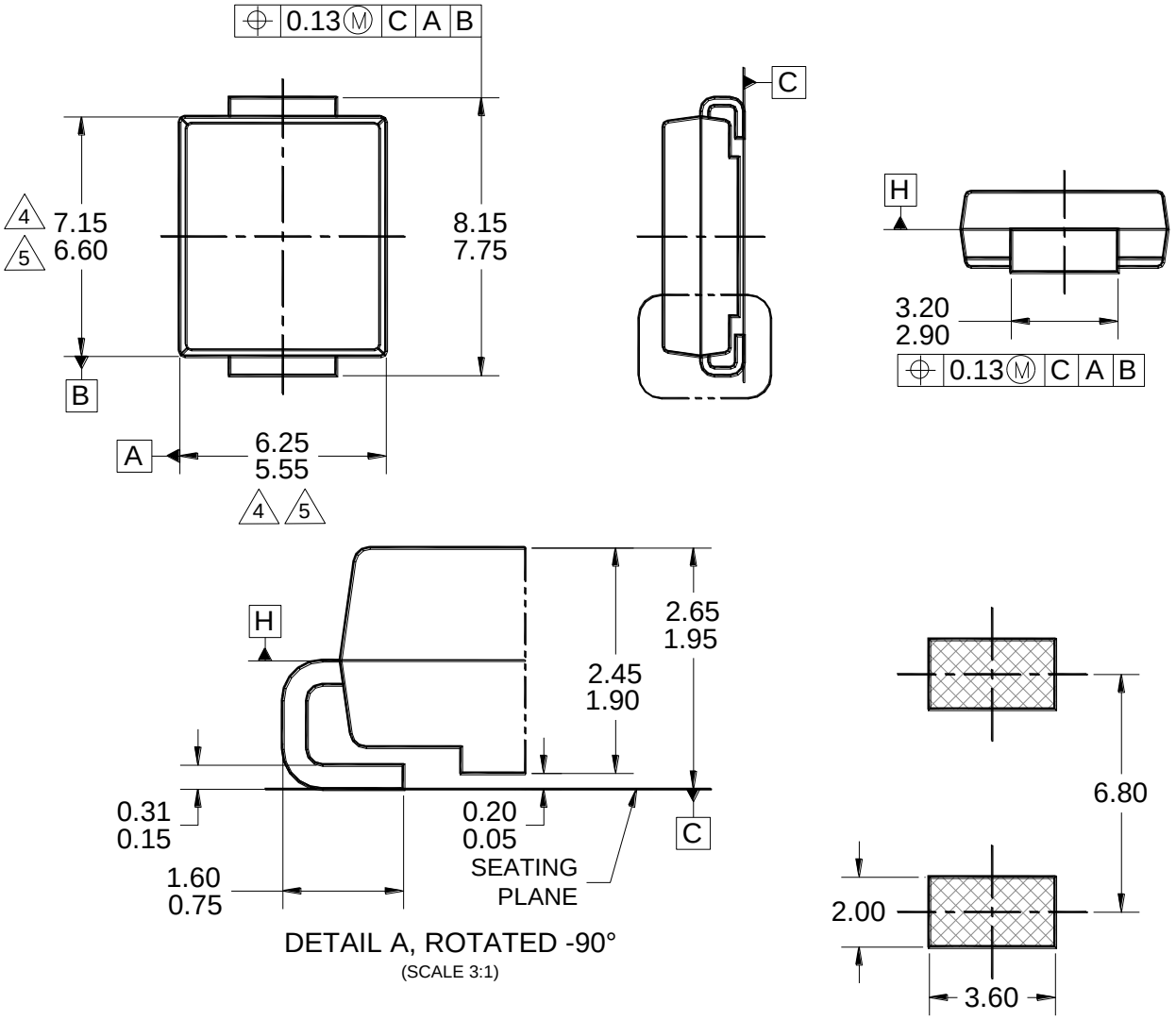


Fig.4 Typical Forward Characteristics



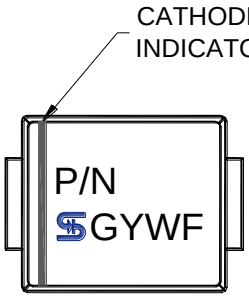
PACKAGE OUTLINE DIMENSIONS

DO-214AB (SMC)



DETAIL A, ROTATED -90°
(SCALE 3:1)

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 AB, 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-036 REV A.

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