

8A, 400V - 1000V Surface Mount Glass Passivated Rectifier

FEATURES

- Low forward voltage drop
- Ideal for automated placement
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- 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
- Part no. with suffix "H" means AEC-Q101 qualified
- Packing code with suffix "G" means green compound (halogen-free)
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.27 g (approximately)

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



DO-214AB (SMC)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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
Maximum DC blocking voltage	V_{DC}	400	600	800	1000	V
Forward current	$I_{F(AV)}$	8				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$T_J = 25^\circ\text{C}$	200				A
	$T_J = 125^\circ\text{C}$					170
Surge peak forward current, 1.0 ms single half sine-wave superimposed on rated load per diode	$T_J = 25^\circ\text{C}$	600				A
	$T_J = 125^\circ\text{C}$					338
Junction temperature	T_J	- 55 to +150				°C
Storage temperature	T_{STG}	- 55 to +150				°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	12.5	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	44.0	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.985	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	250	μA
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	C_J	48	-	pF

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
S8xC (Note 1)	H	R7	G	SMC	850 / 7" Plastic reel
		R6		SMC	3,000 / 13" Paper reel
		M6		SMC	3,000 / 13" Plastic reel
		V7		Matrix SMC	850 / 7" Plastic reel
		V6		Matrix SMC	3,000 / 13" Plastic reel

Note :

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

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S8GCHR7G	S8GC	H	R7	G	AEC-Q101 qualified Green compound

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve



Fig.2 Maximum Non-repetitive Forward Surge Current

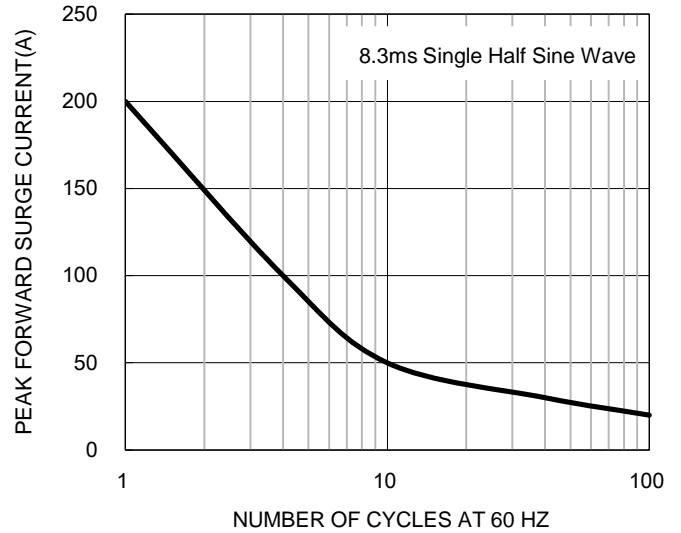


Fig.3 Typical Reverse Characteristics

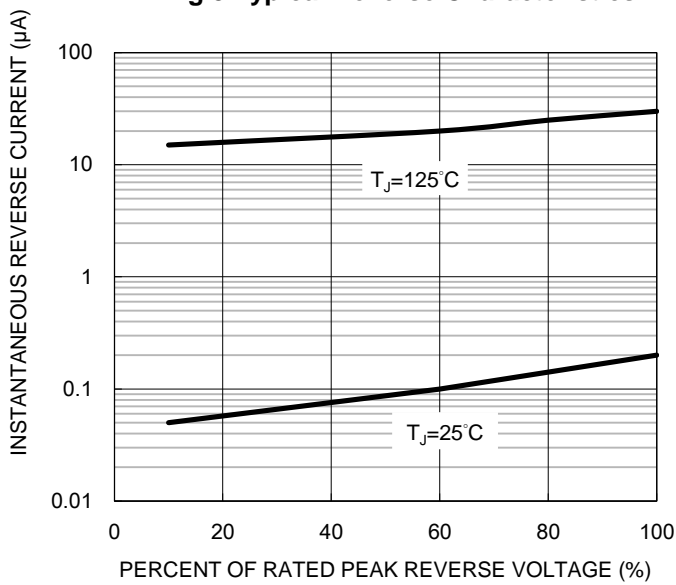
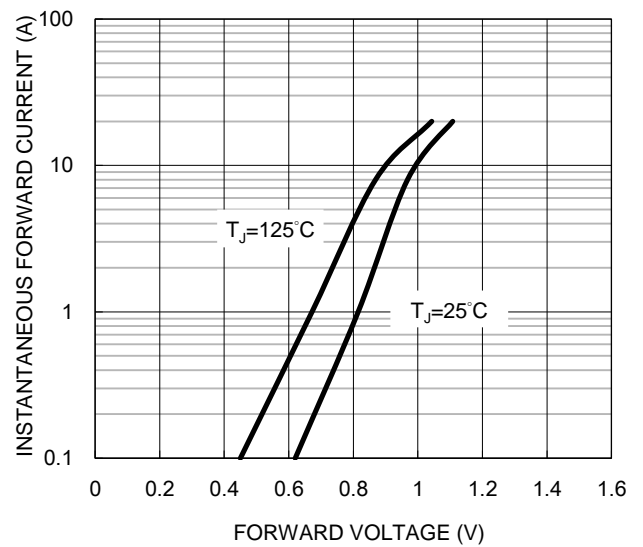
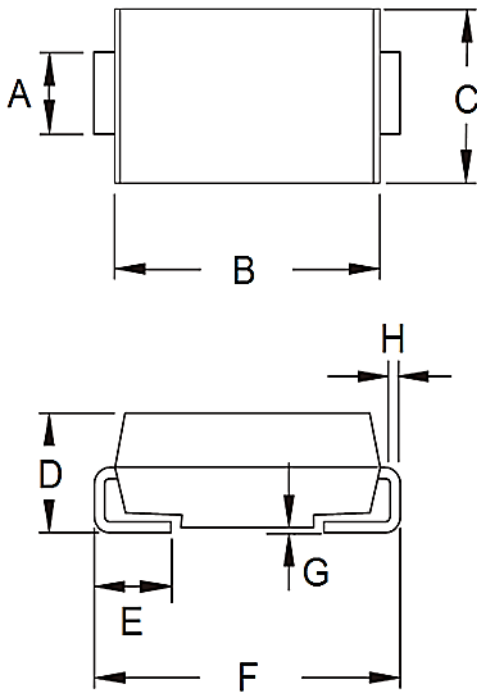


Fig.4 Typical Forward Characteristics



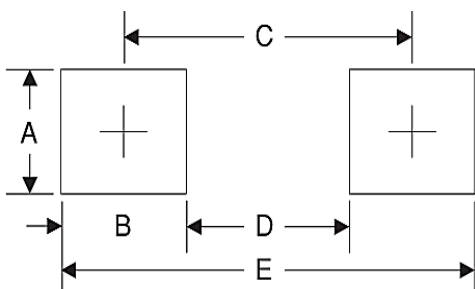
PACKAGE OUTLINE DIMENSIONS

DO-214AB (SMC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.00	2.62	0.079	0.103
E	1.00	1.60	0.039	0.063
F	7.75	8.13	0.305	0.320
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	3.30	0.130
B	2.50	0.098
C	6.80	0.268
D	4.40	0.173
E	9.40	0.370

MARKING DIAGRAM



- P/N =Marking Code
- G =Green Compound
- YW =Date Code
- F =Factory Code

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[S8GC](#) [S8MC](#) [S8JC](#) [S8KC](#) [S8JCHR6](#) [S8KCHR6G](#) [S8KCHR6](#) [S8KCHR7G](#) [S8KCHR7](#) [S8MC R6](#) [S8JC R7G](#)
[S8GCHR6](#) [S8MCHR7](#) [S8JCHR7G](#) [S8MC R6G](#) [S8JCHR6G](#) [S8MCHR7G](#) [S8JC R6G](#) [S8MC R7G](#) [S8GC R6](#)
[S8JCHR7](#) [S8GC R6G](#) [S8JC R6](#) [S8GCHR7G](#) [S8KC R6G](#) [S8MCHR6](#) [S8GCHR6G](#) [S8GCHR7](#) [S8GC R7G](#) [S8KC](#)
[R7G](#) [S8KC R6](#) [S8MCHR6G](#) [S8GC R7](#) [S8KC R7](#) [S8MC R7](#)