

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

FEATURES

- Low forward voltage drop
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- 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
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Weight: 0.26 g (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)	



DO-214AB (SMC)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	S8GC -T	S8JC-T	S8KC-T	S8MC-T	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 at $T_L = 96^\circ\text{C}$	I_F	8				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	200				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 per diode	$R_{\theta JL}$	8	$^{\circ}\text{C}/\text{W}$
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	54	$^{\circ}\text{C}/\text{W}$
Junction-to-case thermal resistance per diode	$R_{\theta JC}$	9	$^{\circ}\text{C}/\text{W}$

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 4\text{A}, T_J = 25^{\circ}\text{C}$	V_F	0.90	-	V
	$I_F = 8\text{A}, T_J = 25^{\circ}\text{C}$		0.96	1.15	V
	$I_F = 4\text{A}, T_J = 125^{\circ}\text{C}$		0.78	-	V
	$I_F = 8\text{A}, T_J = 125^{\circ}\text{C}$		0.86	0.99	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	53	-	pF

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
S8GC-T R7G	SMC	850 / 7" Plastic reel
S8GC-T M6G	SMC	3,000 / 13" Plastic reel
S8JC-T R7G	SMC	850 / 7" Plastic reel
S8JC-T M6G	SMC	3,000 / 13" Plastic reel
S8KC-T R7G	SMC	850 / 7" Plastic reel
S8KC-T M6G	SMC	3,000 / 13" Plastic reel
S8MC-T R7G	SMC	850 / 7" Plastic reel
S8MC-T M6G	SMC	3,000 / 13" Plastic reel

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

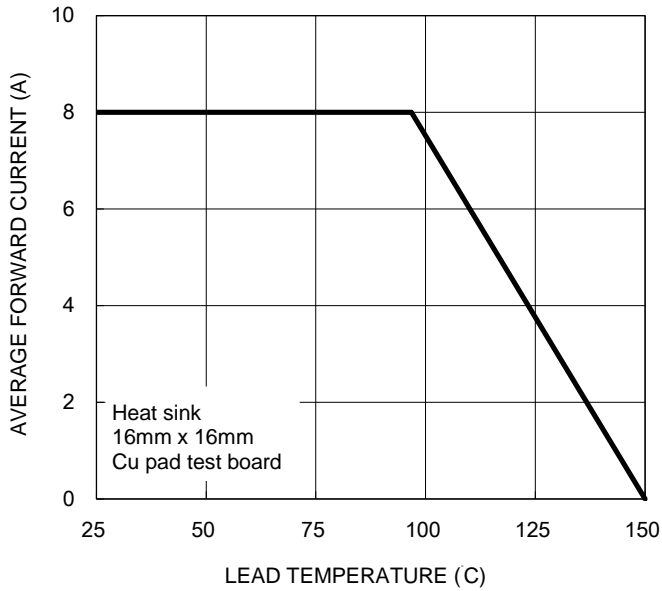


Fig.2 Typical Junction Capacitance

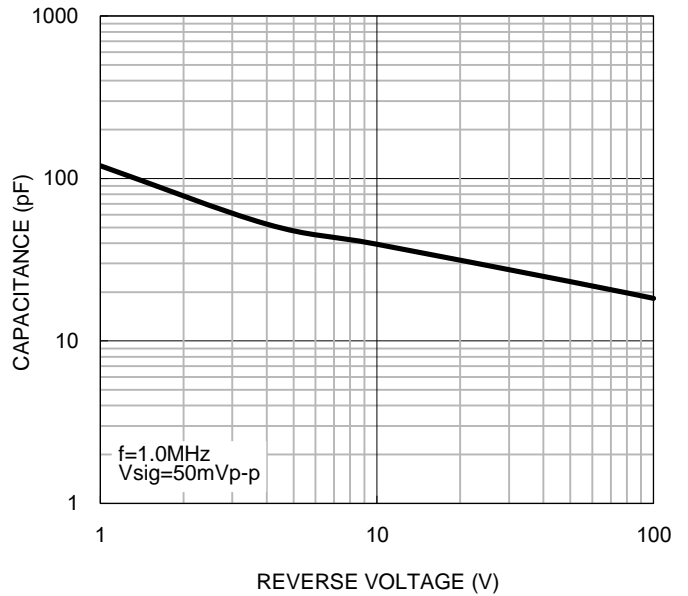


Fig.3 Typical Reverse Characteristics

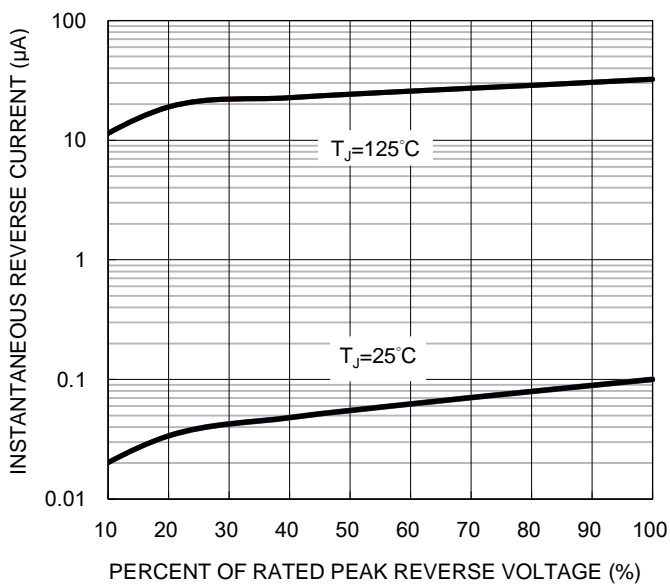
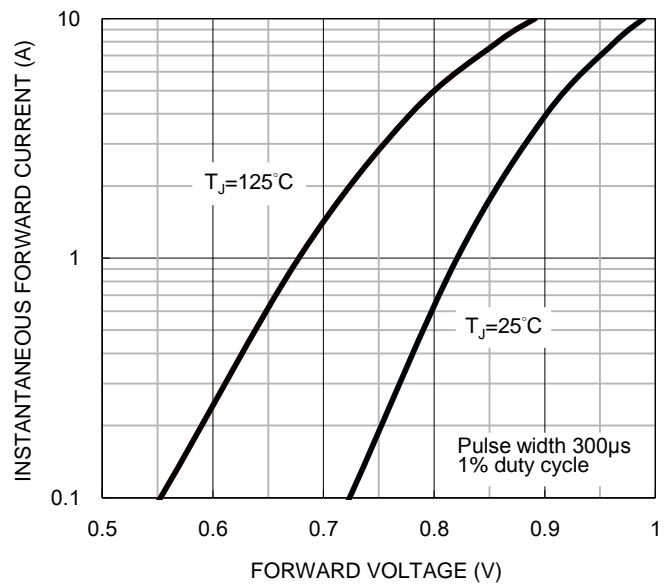
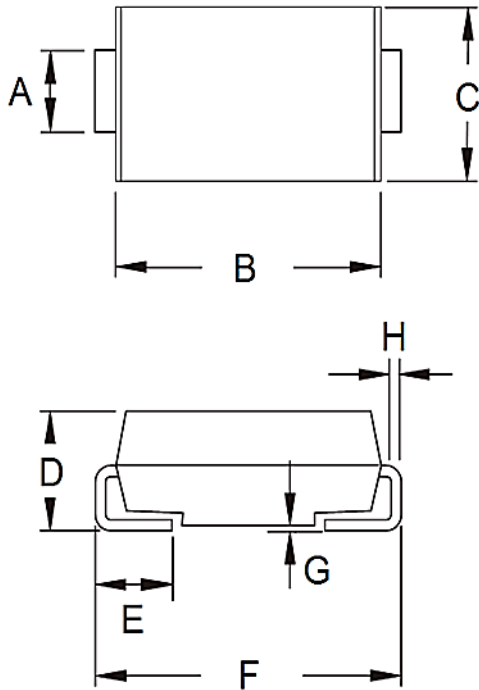


Fig.4 Typical Forward Characteristics



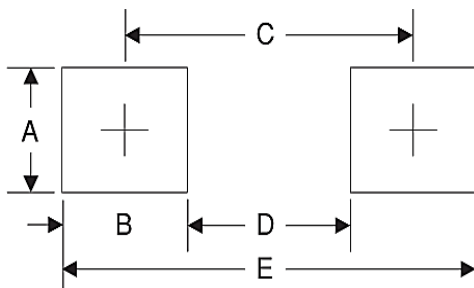
PACKAGE OUTLINE DIMENSIONS

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

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