Surface Mount Glass Passivated Rectifier

DO-214AB (SMC)

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated pellet chip junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- AEC-Q101 qualified available
  - Automotive ordering code: base P/NHM3
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	400 V
I_{FSM}	100 A
I_R	10 µA
V_F	1.15 V
T_J max.	150 °C
Package	DO-214AB (SMC)
Diode variations	Single die

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

MECHANICAL DATA

Case: DO-214AB (SMC)
Molding compound meets UL 94 V-0 flammability rating
Base P/NHM3 - halogen-free, RoHS-compliant, and AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
HM3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**S3G**	**UNIT**
Device marking code		SG	
Max. recurrent peak reverse voltage	V_{RRM}	400	V
Max. RMS voltage	V_{RMS}	280	V
Max. DC blocking voltage	V_{DC}	400	V
Max. average forward rectified current at T_L = 103 °C	$I_{F(AV)}$	3.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**S3G**	**UNIT**
Max. instantaneous forward voltage	2.5 A		V_F	1.15	V
Max. DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	10	μA
		T_A = 125 °C		250	
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	2.5	μs
Typical junction capacitance	4.0 V, 1 MHz		C_J	60	pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**S3G**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$	47	°C/W
	$R_{\theta JL}$	13	

Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad area

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
S3GHM3/57T (1)	0.211	57T	850	7" diameter plastic tape and reel
S3GHM3/9AT (1)	0.211	9AT	3500	13" diameter plastic tape and reel

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

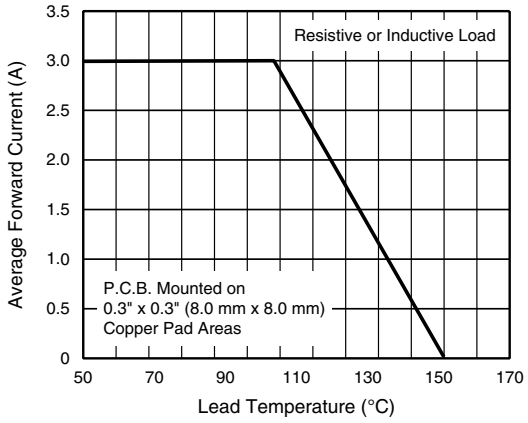


Fig. 1 - Forward Current Derating Curve

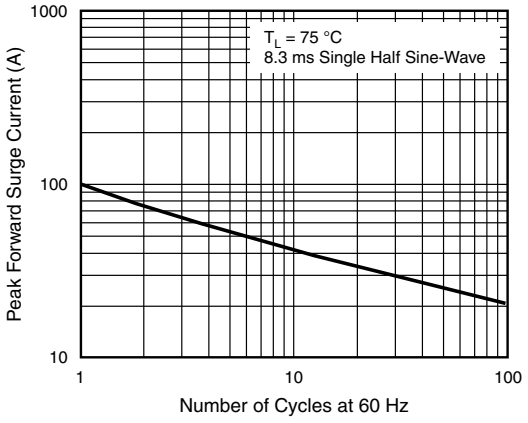


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

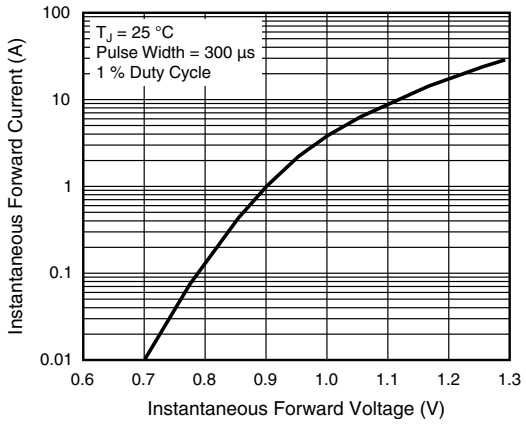


Fig. 3 - Typical Instantaneous Forward Characteristics

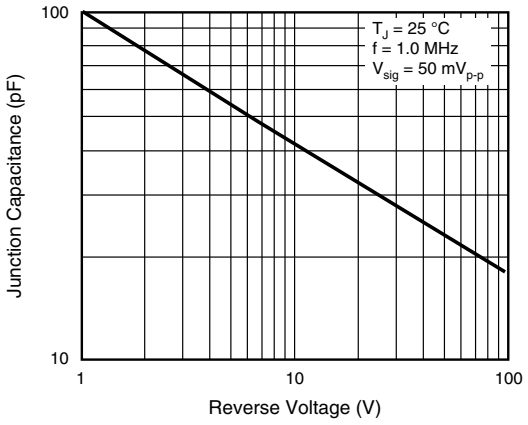


Fig. 5 - Typical Junction Capacitance

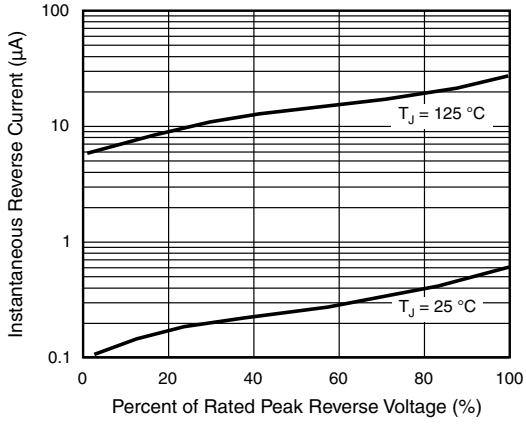


Fig. 4 - Typical Reverse Characteristics

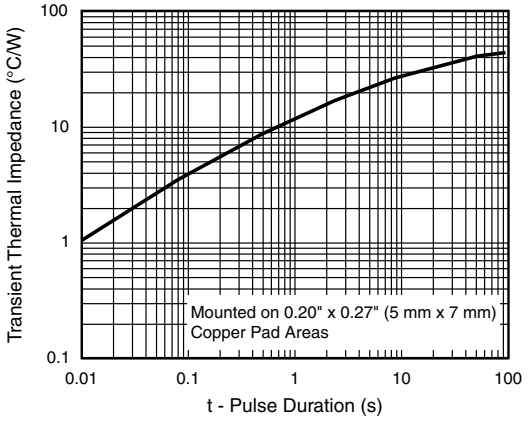
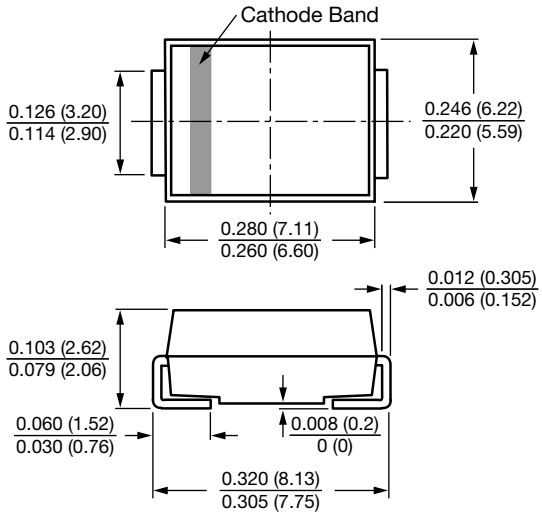


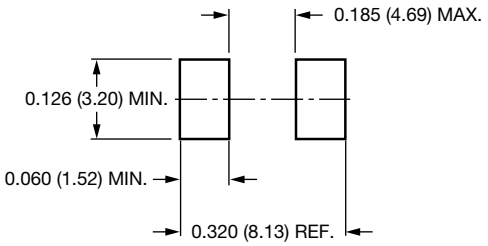
Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AB (SMC)



Mounting Pad Layout



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