

Surface Mount Glass Passivated Rectifiers

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- 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 definition
- AEC-Q101 qualified



DO-214AA (SMB)

MECHANICAL DATA

Case: DO-214AA (SMB)

Molding compound, UL flammability classification rating 94V-0

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.09 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)						
PARAMETER	SYMBOL	S5 GB	S5 JB	S5 KB	S5 MB	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	400	600	800	1000	V
Maximum average forward rectified current	I _{F(AV)}	5				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	T _J =25°C	200				A
	T _J =125°C	150				
Peak forward surge current, 1 ms single half sine-wave superimposed on rated load	T _J =25°C	540				
	T _J =125°C	290				
Maximum instantaneous forward voltage (Note 1) @ 5 A	V _F	1.1				V
Maximum reverse current @ rated VR	T _J =25°C	10				μA
	T _J =125°C	250				
Typical junction capacitance (Note 2)	C _J	40				pF
Typical thermal resistance	R _{θJL}	13				°C/W
	R _{θJA}	47				
Operating junction temperature range	T _J	- 55 to +150				°C
Storage temperature range	T _{STG}	- 55 to +150				°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
S5xB (Note 1)	R5	G	SMB	850 / 7" Plastic reel
	R4		SMB	3,000 / 13" Paper reel
	M4		SMB	3,000 / 13" Plastic reel

Note 1: "x" defines voltage from 400V (S5GB) to 1000V (S5MB)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S5MB R5	S5MB	R5		AEC-Q101 qualified
S5MB R5G	S5MB	R5	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

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

FIG. 1 FORWARD CURRENT DERATING CURVE

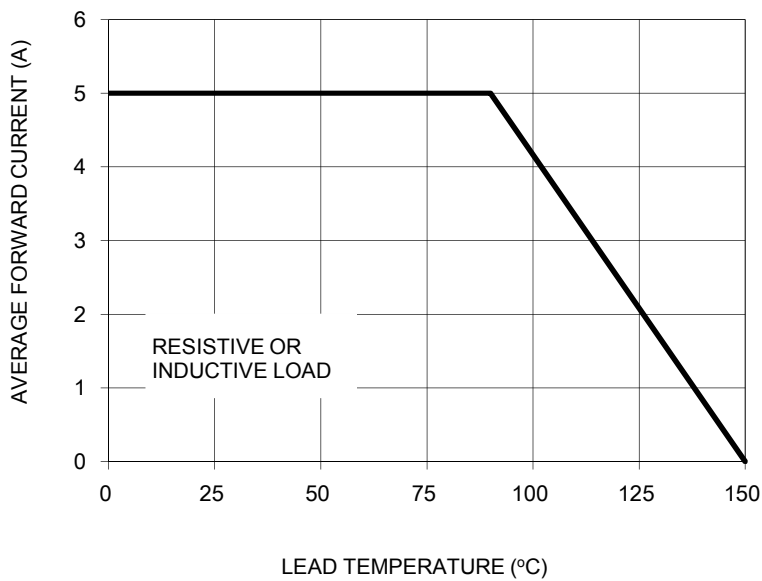


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

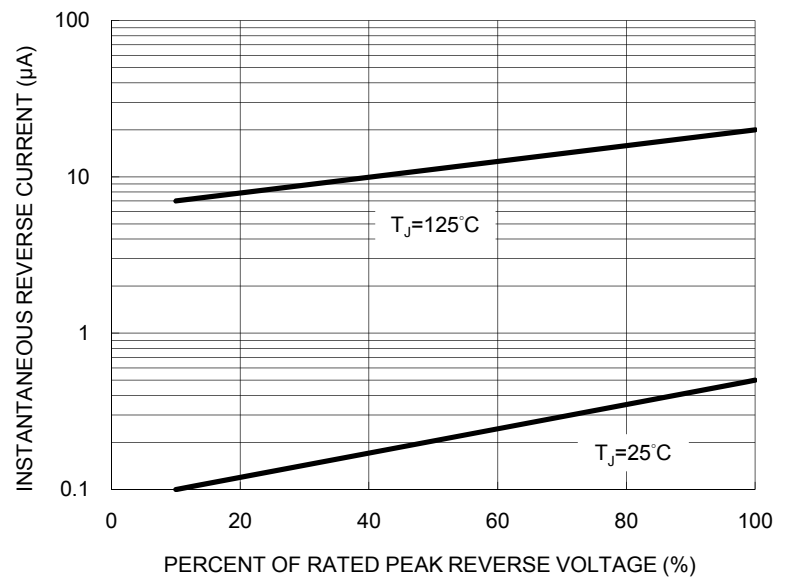


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

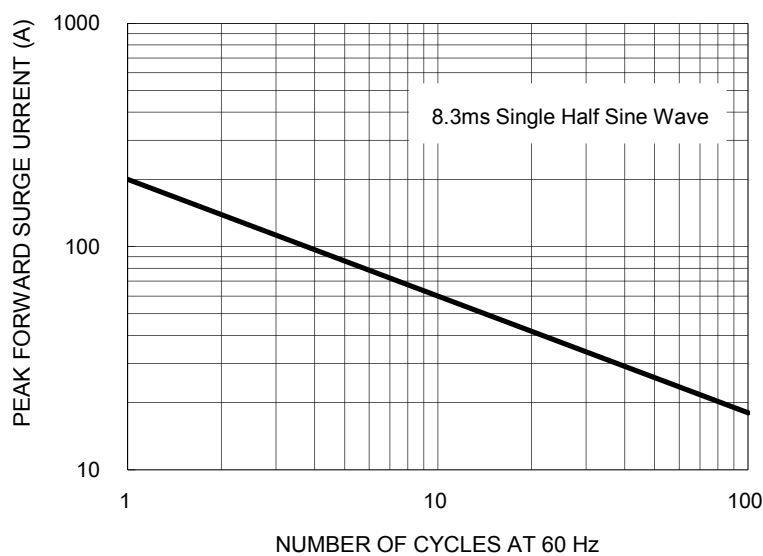


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

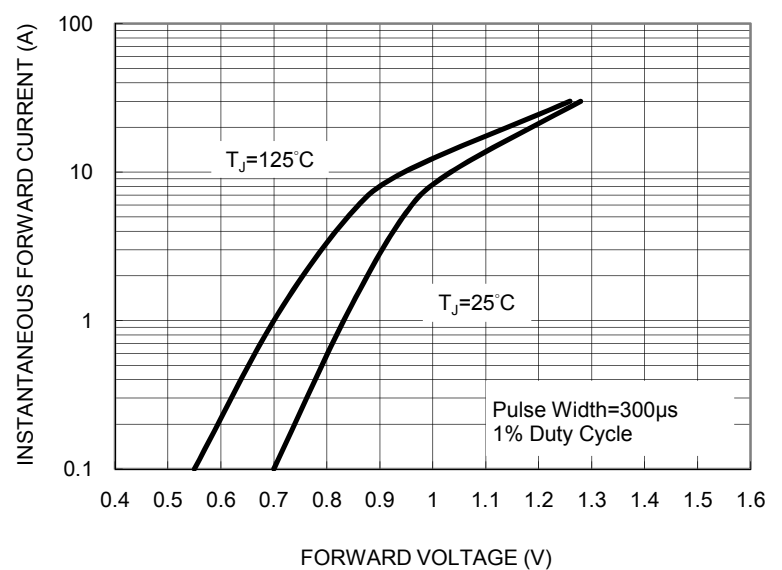
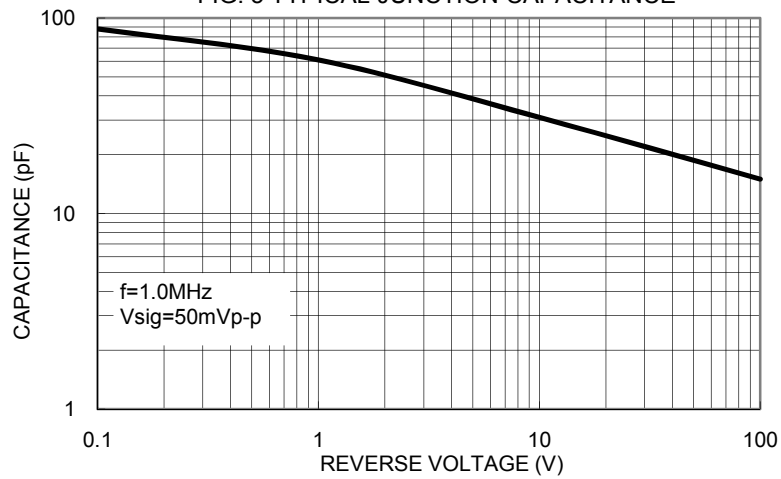
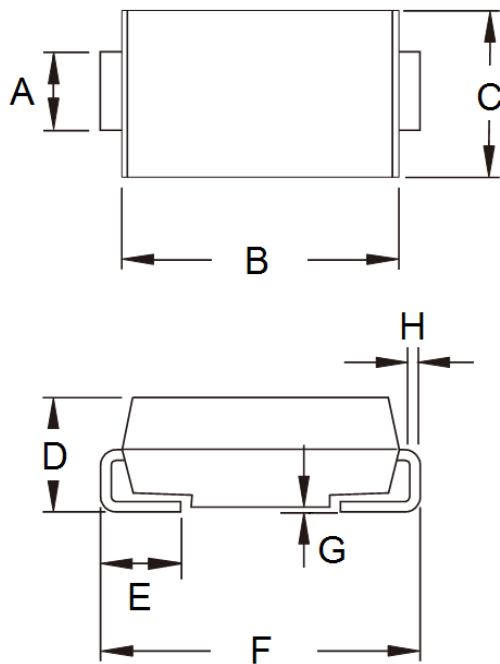


FIG. 5 TYPICAL JUNCTION CAPACITANCE



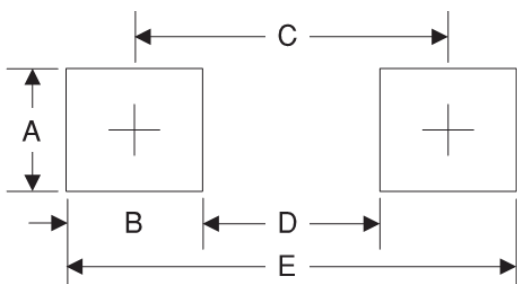
PACKAGE OUTLINE DIMENSIONS

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.10	0.077	0.083
B	4.25	4.75	0.167	0.187
C	3.48	3.73	0.137	0.147
D	1.99	2.61	0.078	0.103
E	0.90	1.41	0.035	0.056
F	5.10	5.30	0.201	0.209
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	2.3	0.091
B	2.5	0.098
C	4.3	0.169
D	1.8	0.071
E	6.8	0.268

MARKING DIAGRAM



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

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