

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

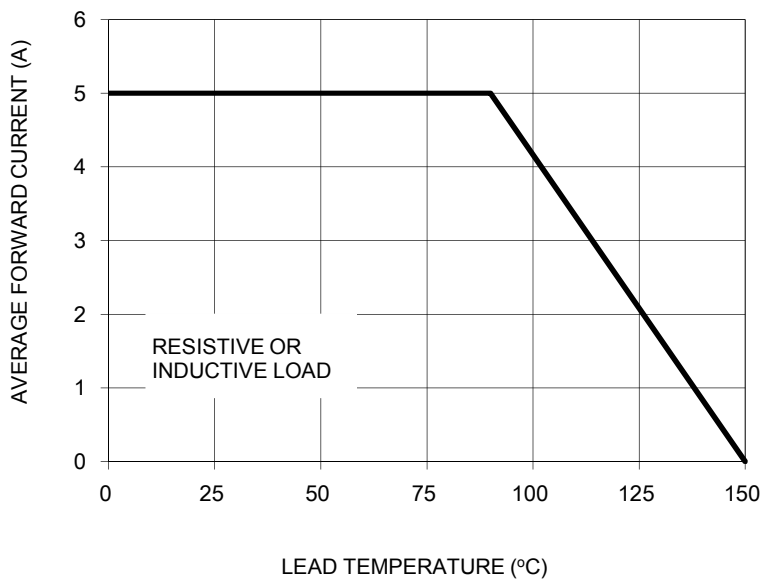


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

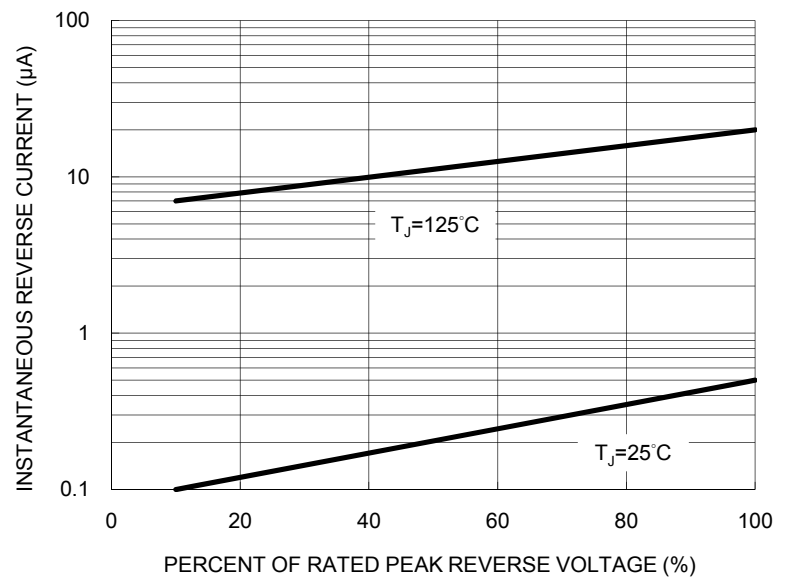


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

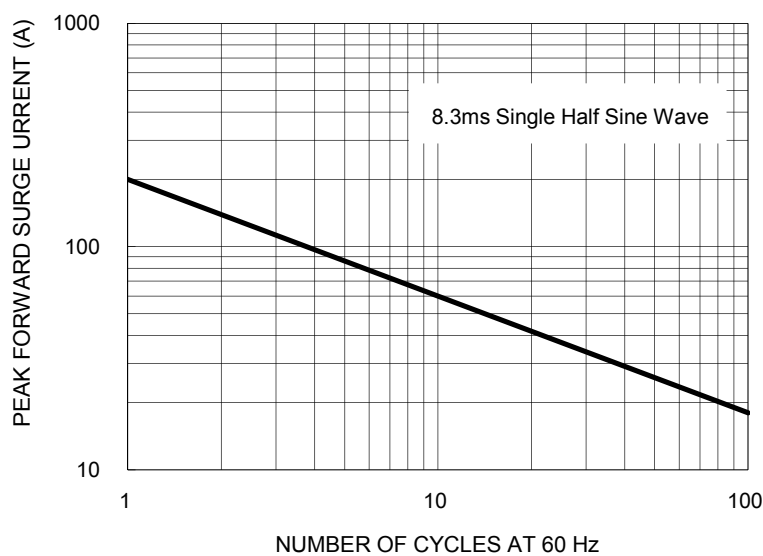
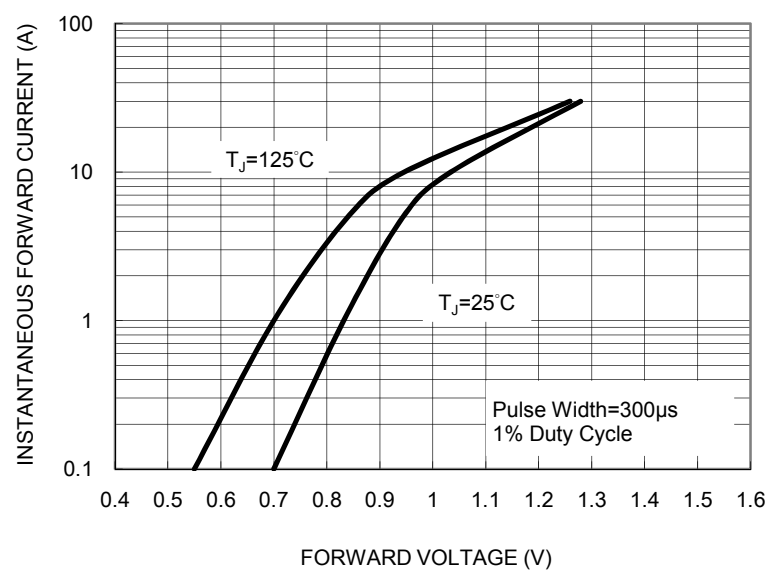
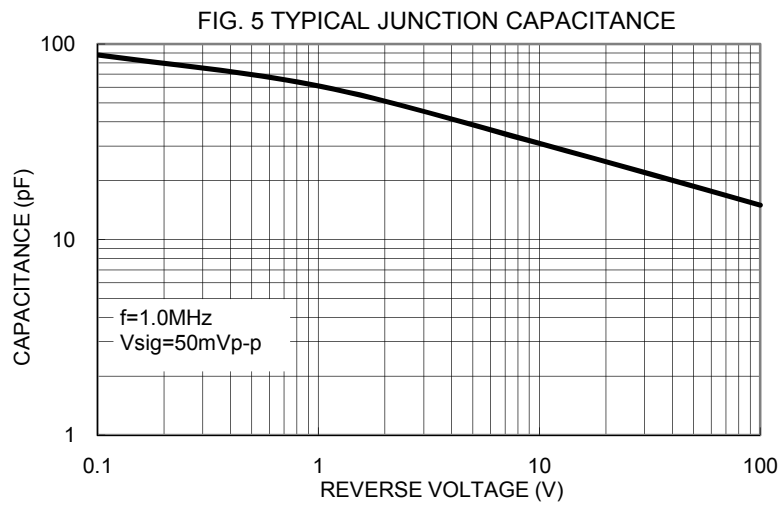
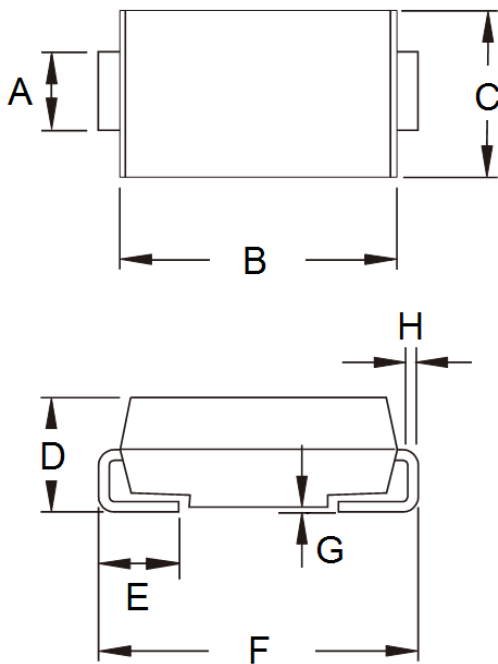


FIG. 4 TYPICAL FORWARD CHARACTERISTICS



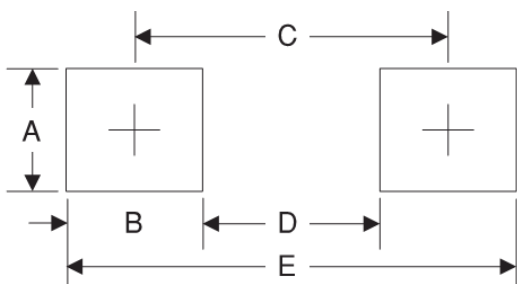


PACKAGE OUTLINE DIMENSIONS  
**DO-214AA (SMB)**



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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