AGN5A thru AGN5M

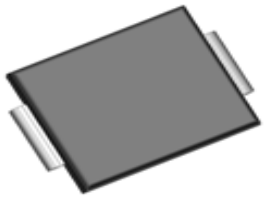
Surface Mount Glass Passivated Standard Rectifiers

Reverse Voltage 50V to 1000V Forward Current 5.0A

Features

- Glass passivated chip junction
- For surface mounted applications
- High forward surge capability
- Low forward voltage drop
- Ideal for automated placement
- High temperature soldering guaranteed: 260℃/10 seconds at terminals
- AEC-Q101 qualified

RoHS COMPLIANT



DO-214AB（SMC）

Typical Applications

- Case:DO-214AB (SMC)
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: Solder plated,solderable per J-STD-002,and JESD 22-B102
- Polarity: laser band denotes cathode end

MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	AGN5A	AGN5B	AGN5D	AGN5G	AGN5J	AGN5K	AGN5M	UNIT
Maximum repetitive peak reverse voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	VDC	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at TL(See Fig.1)	IF(AV)	5.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	IFSM	150							A
Operating junction and storage temperature range	TJ, TSTG	- 55 to + 150							°C

ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	AGN5A	AGN5B	AGN5D	AGN5G	AGN5J	AGN5K	AGN5M	UNIT
Maximum instantaneous forward voltage	IF=5A ,TA=25℃	V_F	1.0							Volts
	IF=5A ,TA=125℃		0.9							
Maximum DC reverse current at rated DC blocking voltage	TA=25℃	I_R	5.0							μA
	TA=125℃		50							
Typical junction capacitance	4.0 V, 1 MHz	C_J	25							pF
Typical reverse recovery time	IF=0.5A, IR=1.0A, Irr=0.25A	t_{rr}	1.8							uS
Typical thermal resistance[1)]	juntion to ambient	$R_{\theta JA}$	50							℃/W
	juntion to case	$R_{\theta JC}$	15.6							
	juntion to lead	$R_{\theta Jl}$	5.3							

Note:1),The thermal resistance from junction to ambient,case or lead,mounted on P.C.B with 8.0×8.0mm copper pads

Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

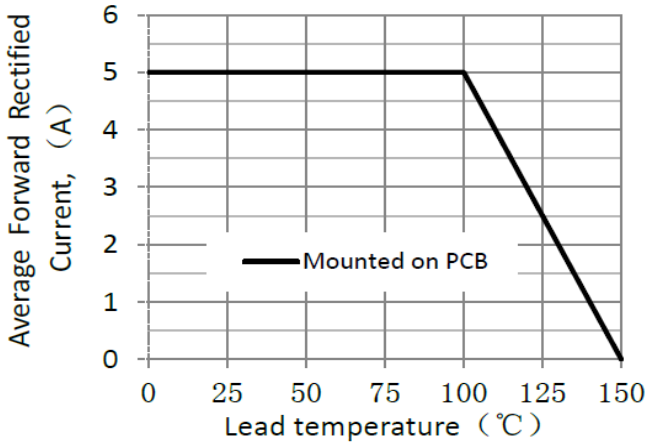


Figure 1.Forward Current Derating Curve

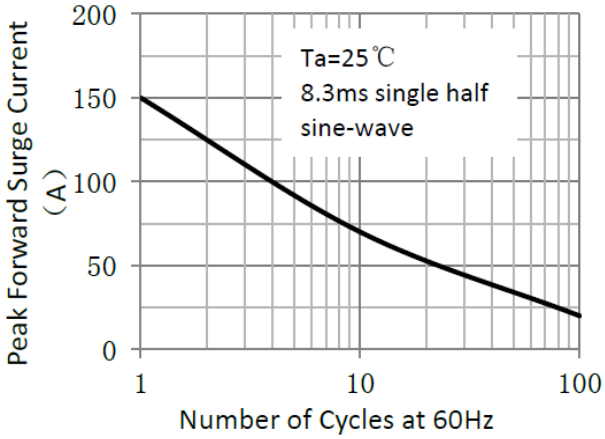


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

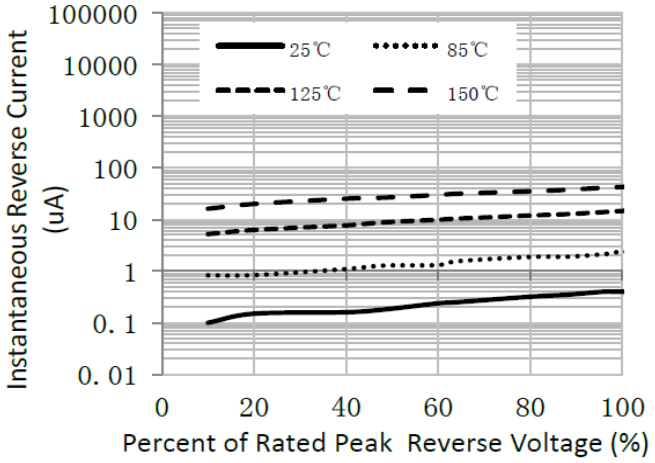


Figure 3. Typical Reverse Characteristics

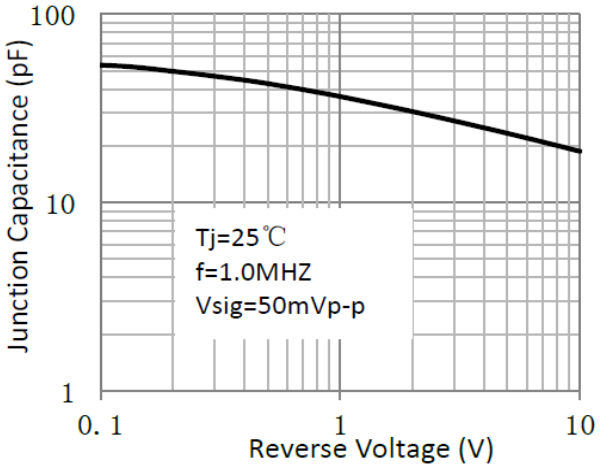


Figure 4. Typical Junction Capacitance

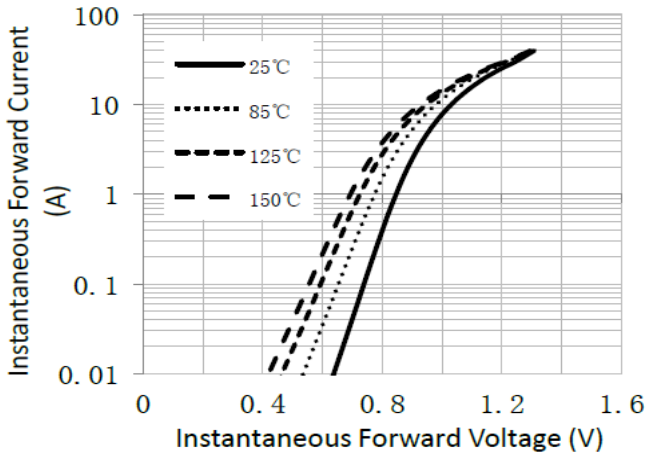


Figure 5. Typical Instantaneous Forward Characteristics

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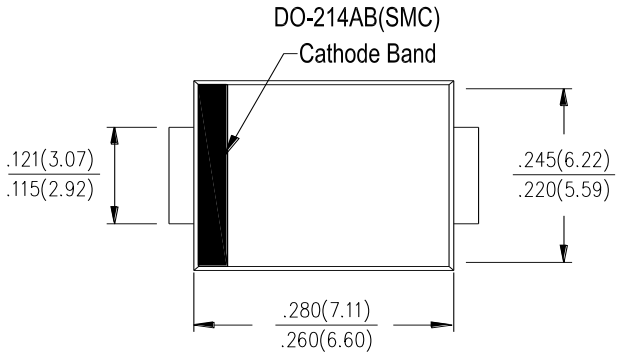
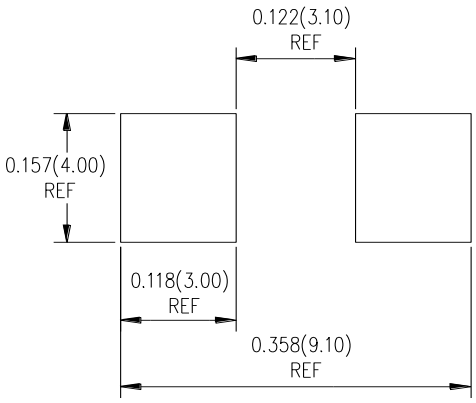
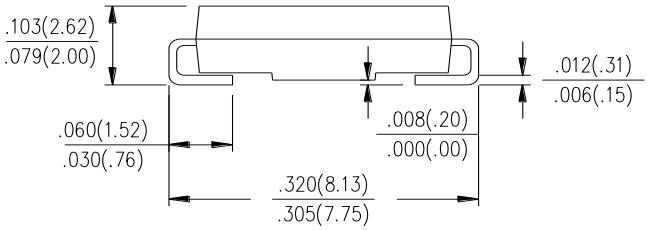
Package Outline Dimensions

in inches (millimeters)



Mounting Pad Layout

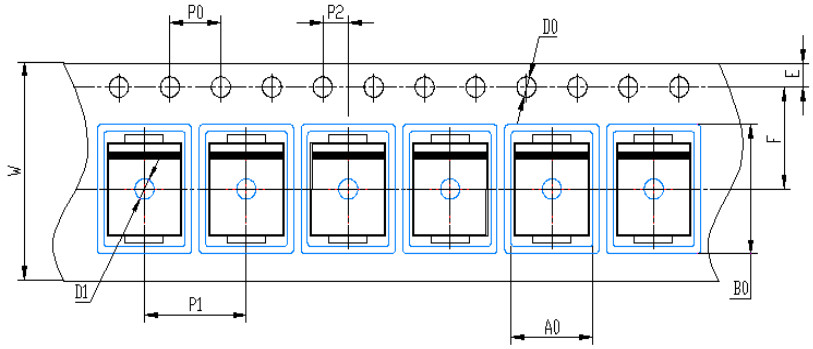




Packing Information

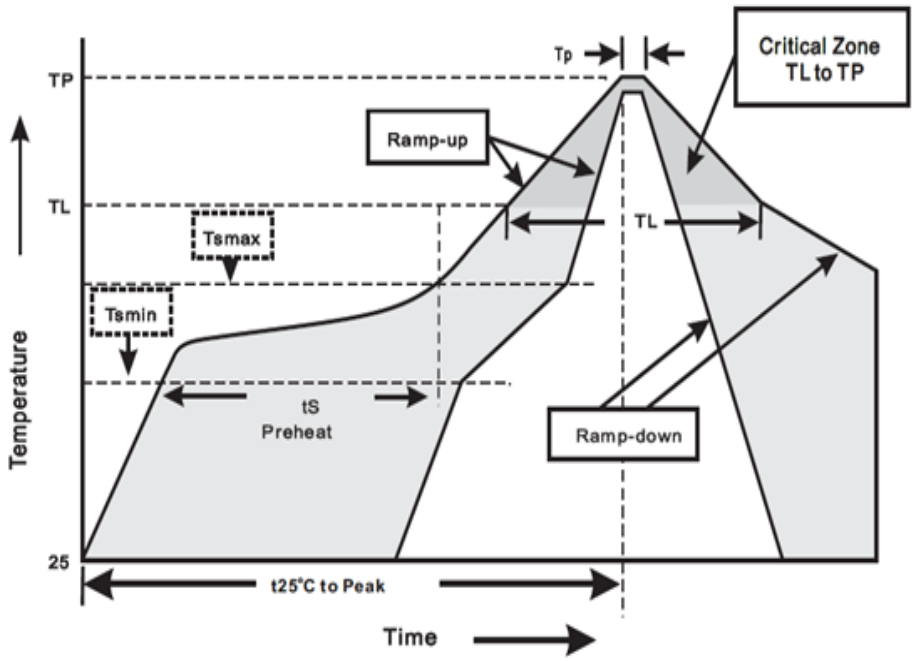
3000 pcs/Reel, 14Reels/Box; 16mm Tape, 13" Reel

Tape & Reel Specification



Symbol	SMC (mm)
W	16±0.2
E	1.75±0.1
F	7.5±0.05
D0	1.5±0.1
D1	1.50 +0.1/-0
P0	4.0±0.1
P1	8.0±0.1
P2	2.0±0.05
A0	6.22±0.1
B0	8.31±0.1

Soldering Parameters



Reflow Soldering		Sn-Pb Eutectic Assembly	Pb-Free assembly
Pre Heat	- Temperature Min (Ts(min))	100 ℃	150 ℃
	- Temperature Max (Ts(max))	150 ℃	200 ℃
	- Time (min to max) (ts)	60 – 120 secs	60 – 180 secs
Average ramp up rate (Liquidus)Temp (TL) to peak		3 ℃/second max	3 ℃/second max
TS(max) to TL - Ramp-up Rate		3 ℃/second max	3 ℃/second max
Reflow	- Temperature (TL) (Liquidus)	183 ℃	217 ℃
	- Time (min to max) (ts)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (TP)		240+0/-5 ℃	260+0/-5 ℃
Time within 5 ℃ of actual peak Temperature (tp)		10 –30 seconds	20 – 40 seconds
Ramp-down Rate		6 ℃/second max	6 ℃/second max
Time 25 ℃ to peak Temperature (TP)		6 minutes Max.	8 minutes Max.
Do not exceed		240 ℃	260 ℃

Wave Soldering	
Peak Temperature :	265+0/-5 ℃
Dipping Time :	10 seconds
Soldering :	1 time

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