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[Vishay Semiconductor/Diodes Division](#)
[S5D-E3/57T](#)

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S5A, S5B, S5D, S5G, S5J, S5K, S5M

Vishay General Semiconductor

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
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

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/N-E3 - RoHS-compliant, commercial grade
 Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified ("_X" denotes revision code e.g. A, B,....)

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
I _{F(AV)}	5.0 A
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	S5A	S5B	S5D	S5G	S5J	S5K	S5M	UNIT	
Device marking code		5A	5B	5D	5G	5J	5K	5M		
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V	
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V	
Maximum average forward rectified current at T _L = 75 °C	I _{F(AV)}	5.0								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



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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	S5A	S5B	S5D	S5G	S5J	S5K	S5M	UNIT
Maximum instantaneous forward voltage	5.0 A		V_F				1.15			V	
Maximum DC reverse current at rated DC blocking voltage		$T_A = 25^\circ\text{C}$	I_R	10						μA	
		$T_A = 125^\circ\text{C}$		250							
Typical reverse recovery time	$I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{rr} = 0.25 \text{ A}$		t_{rr}	2.5						μs	
Typical junction capacitance	4.0 V, 1 MHz		C_J	40						pF	

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	S5A	S5B	S5D	S5G	S5J	S5K	S5M	UNIT	
Typical thermal resistance ⁽¹⁾	$R_{0,LL}$	10						$^\circ\text{C/W}$		

Note

⁽¹⁾ Thermal resistance 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	
S5J-E3/57T	0.211	57T	850	7" diameter plastic tape and reel	
S5J-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel	
S5JHE3_A/H ⁽¹⁾	0.211	H	850	7" diameter plastic tape and reel	
S5JHE3_A/I ⁽¹⁾	0.211	I	3500	13" diameter plastic tape and reel	

Note

⁽¹⁾ AEC-Q101 qualified

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

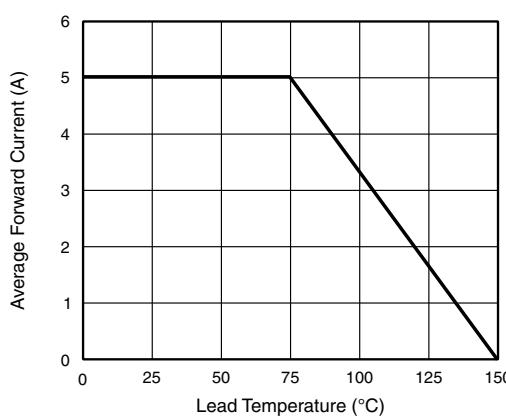


Fig. 1 - Forward Current Derating Curve

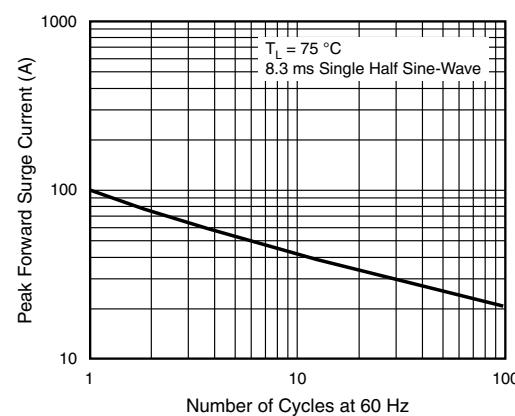


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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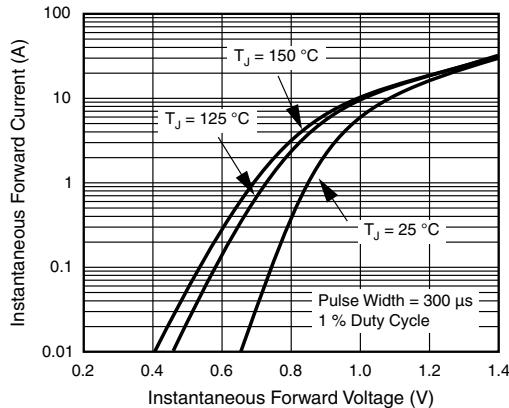


Fig. 3 - Typical Instantaneous Forward Characteristics

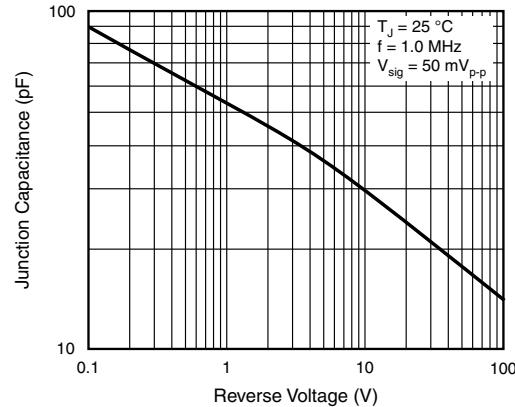


Fig. 5 - Typical Junction Capacitance

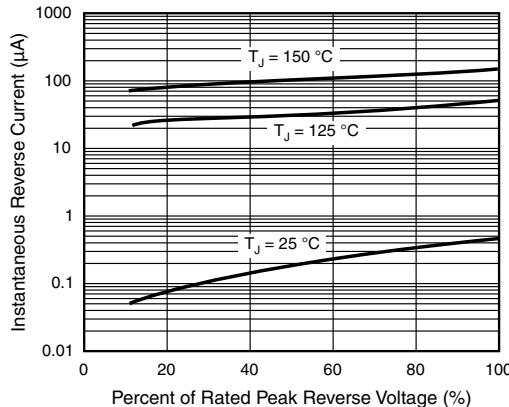
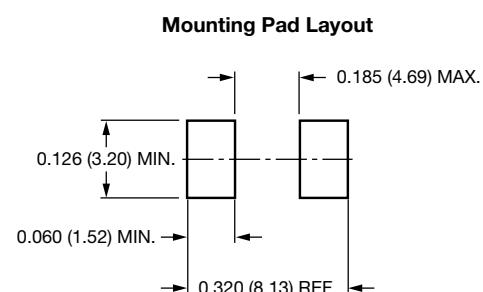
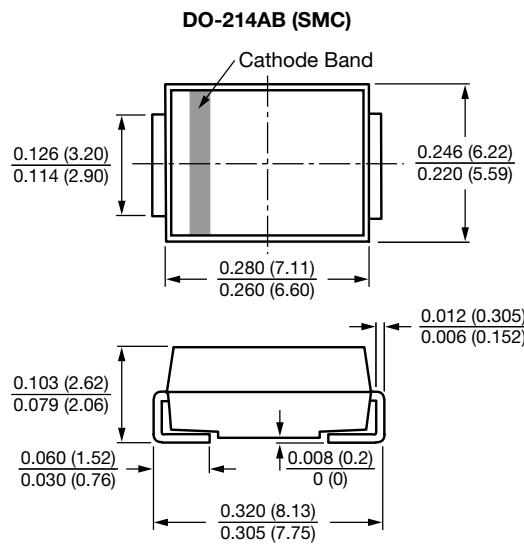


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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