SS22, SS23, SS24, SS25, SS26

Vishay General Semiconductor

Surface-Mount Schottky Barrier Rectifier



www.vishay.com

SMB (DO-214AA)

Cathode O Anode

LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS						
I _{F(AV)} 2.0 A						
V _{RRM}	20 V, 30 V, 40 V, 50 V, 60 V					
I _{FSM}	75 A					
V _F	0.50 V, 0.70 V					
T _J max.	150 °C					
Package	SMB (DO-214AA)					
Circuit configuration	Single					

FEATURES

- Low profile package
- · Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- · Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
 Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

MECHANICAL DATA

Case: SMB (DO-214AA) Molding compound meets UI 94 V-

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade

Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified Base P/NHM3_X - halogen-free, 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, M3, HE3, and HM3 suffix meets JESD 201 class 2 whisker test

Polarity: color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	SS22	SS23	SS24	SS25	SS26	UNIT	
Device marking code		S2	S3	S4	S5	S6		
Maximum repetitive peak reverse voltage	V _{RRM}	20	30	40	50	60	V	
Maximum RMS voltage	V _{RMS}	14	21	28	35	42	V	
Maximum DC blocking voltage	V _{DC}	20 30 40 50 60				60	V	
Max. average forward rectified current at T_L (fig. 1)	I _{F(AV)}	2.0					А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	75					А	
Non-repetitive avalanche energy at $T_A = 25$ °C, $I_{AS} = 2.0$ A, L = 10 mH	E _{AS}	20					mJ	
Electrostatic discharge capacitor voltage Human body model: C = 100 pF, R = 1.5 k Ω	V _C	8.0					kV	
Voltage rate of change (rated V _R)	dV/dt	10 000					V/µs	
Operating junction temperature range	TJ	-65 to +150					°C	
Storage temperature range	T _{STG}	-65 to +150 °C					°C	



RoHS COMPLIANT HALOGEN

Revision: 23-Apr-2020

FREE Available

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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	SS22 SS23 SS24 S			SS25	SS26	UNIT
Maximum instantaneous forward voltage (1)	2.0 A	V _F	0.5		0.7		V	
Maximum DC reverse current at rated DC	T _A = 25 °C	1	0.4		0.4		mA	
blocking voltage ⁽¹⁾	T _A = 100 °C	IR	10					

Note

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 $\,\%$ duty cycle

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	30L SS22 SS23 SS24 SS25 SS26					UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	75					°C/W
	$R_{\theta JL}$	17					0/10

Note

 $^{(1)}\,$ PCB mounted with 0.55" x 0.55" (14 mm x 14 mm) copper pad areas

ORDERING INFORMATION (Example)							
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE			
SS26-E3/52T	0.096	52T	750	7" diameter plastic tape and reel			
SS26-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel			
SS26HE3_A/H ⁽¹⁾	0.096	Н	750	7" diameter plastic tape and reel			
SS26HE3_A/I (1)	0.096	I	3200	13" diameter plastic tape and reel			
SS26-M3/52T	0.096	52T	750	7" diameter plastic tape and reel			
SS26-M3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel			
SS26HM3_A/H ⁽¹⁾	0.096	Н	750	7" diameter plastic tape and reel			
SS26HM3_A/I (1)	0.096	I	3200	13" diameter plastic tape and reel			

Note

(1) AEC-Q101 qualified



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

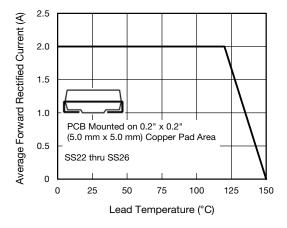


Fig. 1 - Forward Current Derating Curve

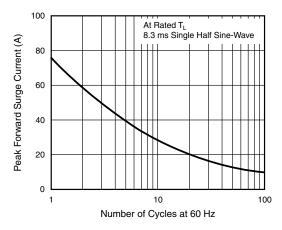


Fig. 2 - Maximum Non-Repetitive Surge Current

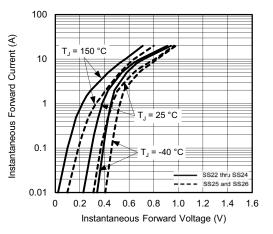


Fig. 3 - Typical Instantaneous Forward Characteristics

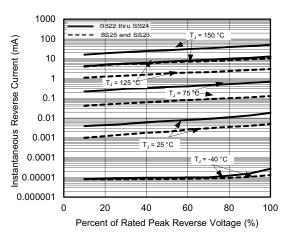


Fig. 4 - Typical Reverse Current Characteristics

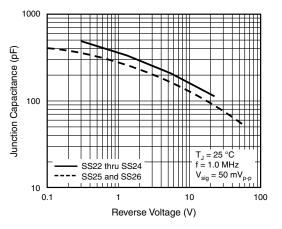


Fig. 5 - Typical Junction Capacitance

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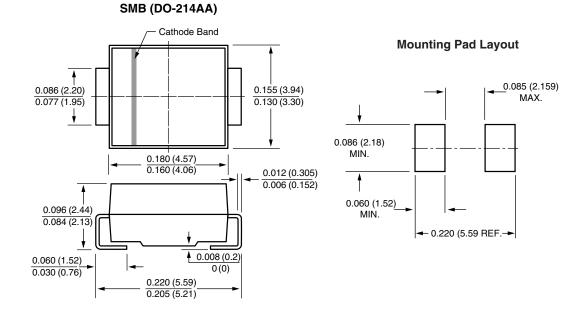
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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