RoHS



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Vishay General Semiconductor

High Voltage Surface Mount Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



DO-214AB (SMC)

PRIMARY CHARACTERISTICS					
I _{F(AV)}	3.0 A				
V_{RRM}	90 V, 100 V				
I _{FSM}	100 A				
V _F	0.65 V				
I _R	20 μΑ				
T _J max.	175 °C				
Package	DO-214AB (SMC)				
Diode variations	Single				

FEATURES

- · Low profile package
- · Ideal for automated placement
- · Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- Low leakage current
- 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
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

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 the cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SS3H9 SS3H10		UNIT	
Device marking code		MS9 MS10			
Maximum repetitive peak reverse voltage	V_{RRM}	90	100	V	
Working peak reverse voltage	V _{RWM}	90	100	V	
Maximum DC blocking voltage	V_{DC}	90	100	V	
Maximum average forward rectified current at: T _L = 115 °C	I _{F(AV)}	3.0		А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100		А	
Peak repetitive reverse surge current at t _p = 2.0 μs, 1 kHz	I _{RRM}	1.0		А	
Critical rate of rise of reverse voltage	dV/dt	10 000		V/µs	
Operating junction and storage temperature range	T _J , T _{STG}	-65 to	°C		



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	SS3H9	SS3H10	UNIT
Maximum instantaneous forward voltage (1) $I_E = 3.0 \text{ A}$		T _J = 25 °C		0.8		
Maximum instantaneous forward voltage (1)	I _F = 3.0 A	T _J = 125 °C	V_{F}	0.65		
Maximum reverse current at rated V _R (2)		T _J = 25 °C	1	20		μΑ
Iviaximum reverse current at rated $v_R \leftarrow$		T _J = 125 °C	IR	4	1	mA

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width \leq 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SS3H9	SS3H10	UNIT	
Typical thermal resistance, junction to lead at T _L = 25 °C	$R_{ heta JL}$	20		°C/W	
Typical thermal resistance, junction to ambient (1)	$R_{ heta JA}$	50		C/VV	

Note

(1) Units mounted on PCB 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		
SS3H9-E3/57T	0.235	57T	850	7" diameter plastic tape and reel		
SS3H9-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel		
SS3H9HE3_A/H (1)	0.235	Н	850	7" diameter plastic tape and reel		
SS3H9HE3_A/I (1)	0.235	1	3500	13" diameter plastic tape and reel		
SS3H9HE3_B/H (1)	0.235	Н	850	7" diameter plastic tape and reel		
SS3H9HE3_B/I (1)	0.235	I	3500	13" diameter plastic tape and reel		

Note

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

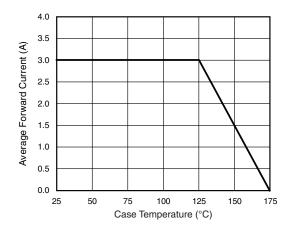


Fig. 1 - Forward Current Derating Curve

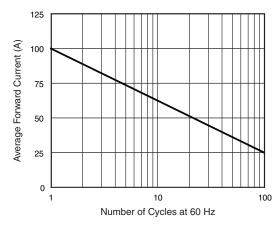


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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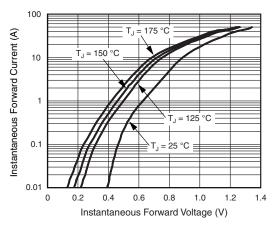


Fig. 3 - Typical Instantaneous Forward Characteristics

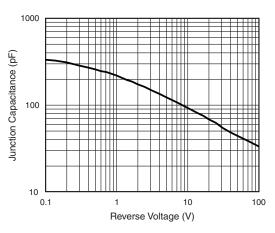


Fig. 5 - Typical Junction Capacitance

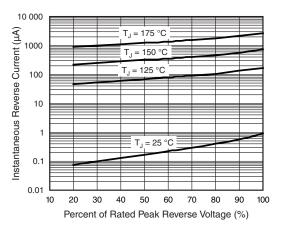


Fig. 4 - Typical Reverse Characteristics

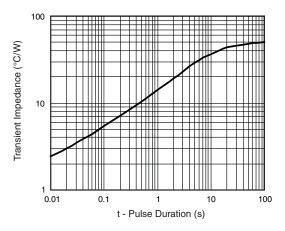
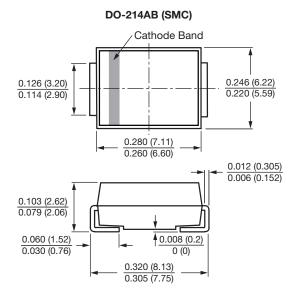
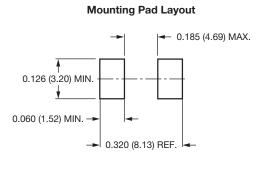


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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