AUTOMOTIV



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Vishay General Semiconductor

High Voltage Surface-Mount Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



SMC (DO-214AB)



LINKS TO ADDITIONAL RESOURCES



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	SMC (DO-214AB)			
Circuit configuration	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: SMC (DO-214AB)

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

PARAMETER	SYMBOL	SS3H9	SS3H10	UNIT
Device marking code	OTIMBOL	MS9	MS10	Olti
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		Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	1	А	
Peak repetitive reverse surge current at t_p = 2.0 μ s, 1 kHz	I _{RRM}	1.0		Α
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 +175		



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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 _F = 3.0 A	T _J = 25 °C	V_{F}	0.8 0.65		V
		T _J = 125 °C	٧F			
Maximum reverse current at rated V _R ⁽²⁾		T _J = 25 °C	1	20		μΑ
		T _J = 125 °C	IR	4		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)	$R_{\theta JA}$	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_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

(1) AEC-Q101 qualified



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

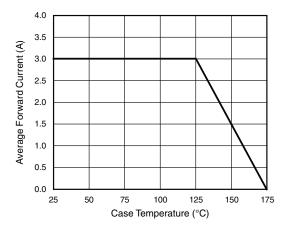


Fig. 1 - Forward Current Derating Curve

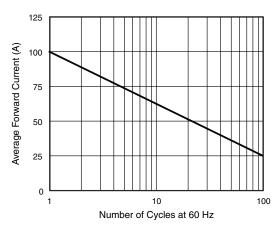


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

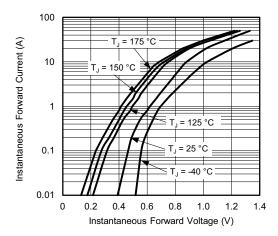


Fig. 3 - Typical Instantaneous Forward Characteristics

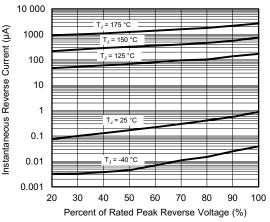


Fig. 4 - Typical Reverse Characteristics

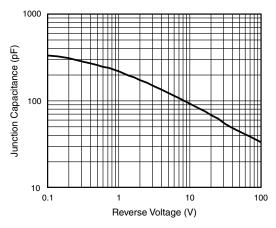


Fig. 5 - Typical Junction Capacitance

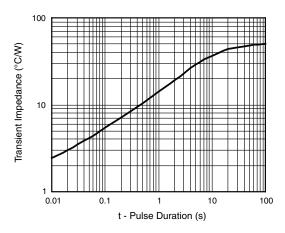


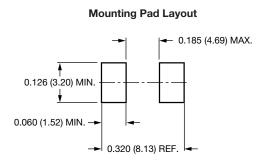
Fig. 6 - Typical Transient Thermal Impedance



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

0.126 (3.20) 0.114 (2.90) 0.103 (2.62) 0.006 (1.52) 0.030 (0.76) 0.320 (8.13) 0.305 (7.75)





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