RoHS



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Vishay General Semiconductor

High-Voltage Surface Mount Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



DO-214AC (SMA)

PRIMARY CHARACTERISTICS					
I _{F(AV)}	1.0 A				
V_{RRM}	90 V, 100 V				
I _{FSM}	50 A				
V_{F}	0.62 V				
I _R	1.0 µA				
T _J max.	175 °C				
Package	DO-214AC (SMA)				
Diode variations Single					

FEATURES

- Low profile package
- · Ideal for automated placement
- · Guardring for overvoltage protection
- Low powevr 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-214AC (SMA)

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3 - RoHS-compliant and AEC-Q101 qualified 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	SS1H9	SS1H10	UNIT	
Device marking code		S9	S10		
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 (fig. 1)	I _{F(AV)}	1.0		А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50		А	
Peak repetitive reverse surge current at t _p = 2.0 μs, 1 kHz	I _{RRM}	1.0		Α	
Storage temperature range	T _{STG}	-65 to +175		°C	
Maximum operating temperature	TJ	1	°C		



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	SS1H9	SS1H10	UNIT
Maximum instantaneous forward voltage (1)	I _F = 1.0 A	$T_J = 25 ^{\circ}\text{C}$		0.77		V
		T _J = 125 °C	V _F	0.62		
	I _F = 2.0 A	$T_J = 25 ^{\circ}\text{C}$		0.8	86]
		T _J = 125 °C		0.	.70	
Maximum reverse current at rated V _R ⁽²⁾		T _J = 25 °C	I _R	1.	.0	μΑ
		T _J = 125 °C		0.	5	mA

Notes

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

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SS1H9	SS1H10	UNIT	
Maximum thermal resistance (1)	$R_{\theta JA}$	88		°C/W	
Maximum thermal resistance (7)	$R_{ heta JL}$	30			

Note

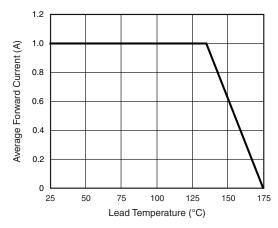
 $^{(1)}\,$ PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
SS1H10-E3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
SS1H10-E3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel		
SS1H10HE3_A/H (1)	0.064	Н	1800	7" diameter plastic tape and reel		
SS1H10HE3_A/I (1)	0.064	I	7500	13" diameter plastic tape and reel		
SS1H10HE3_B/H (1)	0.064	Н	1800	7" diameter plastic tape and reel		
SS1H10HE3_B/I (1)	0.064	I	7500	13" diameter plastic tape and reel		

Note

(1) AEC-Q101 qualified

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





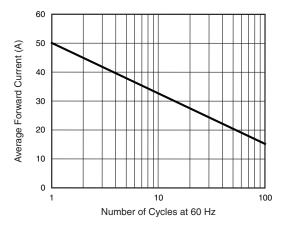


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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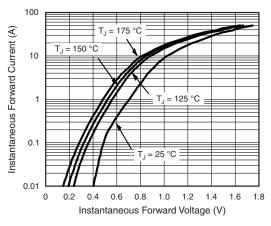


Fig. 3 - Typical Instantaneous Forward Characteristics

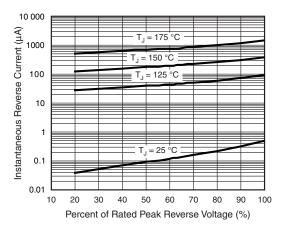


Fig. 4 - Typical Reverse Characteristics

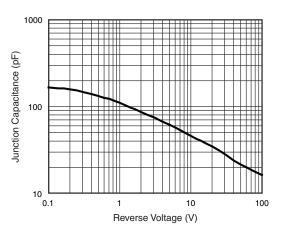


Fig. 5 - Typical Junction Capacitance

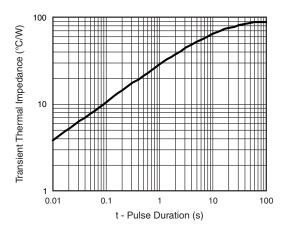
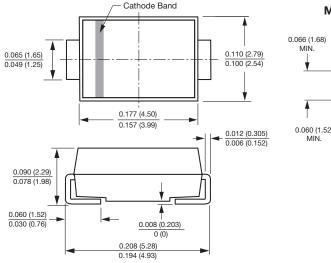


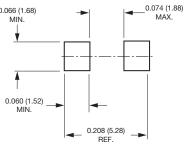
Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)



Mounting Pad Layout





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