HALOGEN

FREE



Vishay General Semiconductor

Low V_F Surface Mount Schottky Rectifier



DO-214AC (SMA)

PRIMARY CHARACTERISTICS				
I _{F(AV)}	1.5 A			
V_{RRM}	20 V, 30 V			
I _{FSM}	50 A			
V _F	0.34 V			
T _J max.	125 °C			
Package	DO-214AC (SMA)			
Diode variation	Single die			

FEATURES

- Low profile package
- · Ideal for automated placement
- · Guardring for overvoltage protection
- Low power losses, high efficiency
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- 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: DO-214AC (SMA)

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

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 2 whisker test **Polarity:** Color band denotes the cathode end

PARAMETER	SYMBOL	SL12	SL13	UNIT
Device marking code		SL2	SL3	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	V
Maximum RMS voltage	V_{RMS}	14	21	V
Maximum DC blocking voltage	V_{DC}	20	30	V
Maximum average forward rectified current at T _L = 105 °C (fig. 1)	I _{F(AV)}	1	Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50		А
Voltage rate of change (rated V _R)	dV/dt	10 000		V/µs
Operating junction temperature range	T _J	-55 to	°C	
Storage temperature range	T _{STG}	-55 to	°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	SL12	SL13	UNIT	
Maximum instantaneous forward voltage	I _F = 0.1 A	T _A = 125 °C	V _F ⁽¹⁾	0.230		V	
		T _A = 25 °C		0.360			
	I _F = 1.0 A	T _A = 125 °C		0.3	40	V	
		T _A = 25 °C		0.445			
Maximum DC reverse current at rated DC blocking voltage		T _A = 25 °C	I _R ⁽¹⁾	0.	2	mA	
		T _A = 100 °C		6.	0	I IIIA	

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SL12	SL13	UNIT	
Maximum thermal resistance	R _{0JA} (1)	88		°C/W	
Maximum thermal resistance	R ₀ JL (1)	28			

Note

 $^{^{(1)}\,}$ PCB mounted on 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		
SL13-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
SL13-M3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel		

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

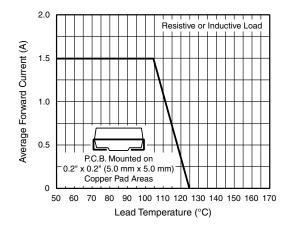


Fig. 1 - Forward Current Derating Curve

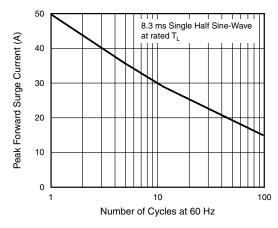


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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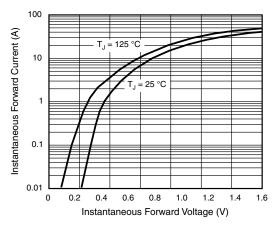


Fig. 3 - Typical Instantaneous Forward Characteristics

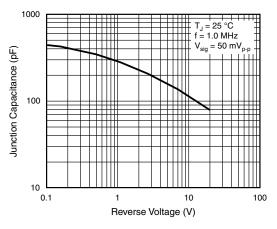


Fig. 5 - Typical Junction Capacitance

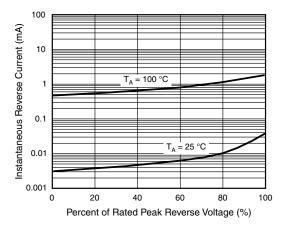
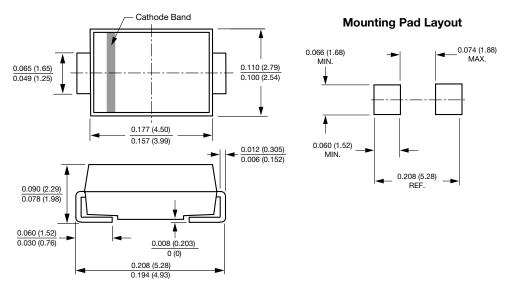


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-214AC (SMA)





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