HALOGEN

FREE



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Vishay General Semiconductor

Low V_F Surface-Mount Schottky Rectifier



SMA (DO-214AC)



LINKS TO ADDITIONAL RESOURCES



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	SMA (DO-214AC)			
Circuit configuration	Single			

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 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: SMA (DO-214AC)

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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
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)}	1.5		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	TJ	-55 to +125		°C	
Storage temperature range	T _{STG}	-55 to	°C		

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⁾	0.2	230		
		T _A = 25 °C		0.360		\ \ \	
	I _F = 1.0 A	T _A = 125 °C		0.3	340] V	
		T _A = 25 °C		0.4	145		
Maximum DC reverse current at rated DC blocking voltage		T _A = 25 °C	I _R ⁽¹⁾	0	.2	mA	
		T _A = 100 °C	'R '''	6	.0	IIIA	

Note

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



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

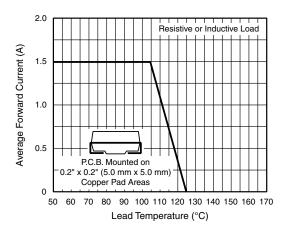


Fig. 1 - Forward Current Derating Curve

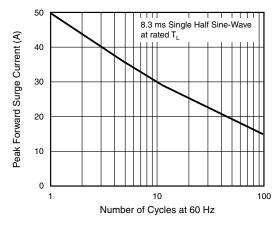


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

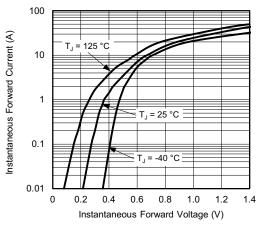


Fig. 3 - Typical Instantaneous Forward Characteristics

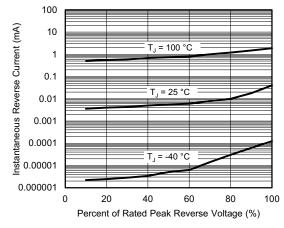


Fig. 4 - Typical Reverse Characteristics



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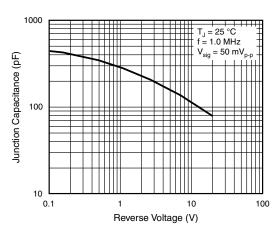
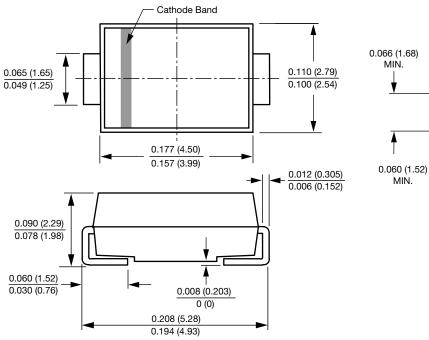
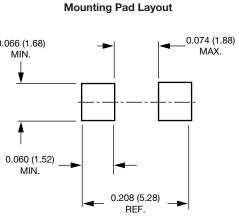


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMA (DO-214AC)







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