HALOGEN

FREE



Vishay General Semiconductor

High Current Density Surface-Mount Schottky Rectifier



SMA (DO-214AC)



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I _{F(AV)}	2.0 A				
V _{RRM}	30 V, 40 V				
I _{FSM}	60 A				
E _{AS}	11.25 mJ				
V _F	0.38 V, 0.42 V				
T _J max.	150 °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
- 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	SSA23L	SSA24	UNIT		
Device marking code		23L	S24	V		
Maximum repetitive peak reverse voltage	V_{RRM}	30	40	V		
Maximum RMS voltage	V _{RMS}	21	28	V		
Maximum DC blocking voltage	V_{DC}	30	40	V		
Maximum average forward rectified current at T _L (fig. 1)	I _{F(AV)}	2.0		Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	60		Α		
Non-repetitive avalanche energy at $T_A = 25$ °C, $I_{AS} = 1.5$ A, $L = 10$ mH	E _{AS}	11	mJ			
Voltage rate of change (rated V _R)	dV/dt	10	V/µs			
Operating junction temperature range	TJ	-65 to +150		°C		
Storage temperature range	T _{STG} -65 to +150			°C		



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	SSA23L		SSA24		UNIT
				TYP.	MAX.	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage	2.0 A	T _J = 25 °C	V _F ⁽¹⁾	0.43	0.45	0.45	0.49	V
	2.0 A	T _J = 125 °C		0.32	0.38	0.36	0.42	
Maximum reverse current at rated V _R		T _J = 25 °C	I _R ⁽²⁾	-	0.5	-	0.2	mA
		T _J = 125 °C		15	25	12	20	

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		SSA23L	SSA24	UNIT		
Typical thermal resistance	R _{0JA} (1)	110		°C/W		
	R _{0JL} (1)	2	8	C/VV		

Note

(1) Aluminum substrate mounted

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
SSA23L-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
SSA23L-M3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel		

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

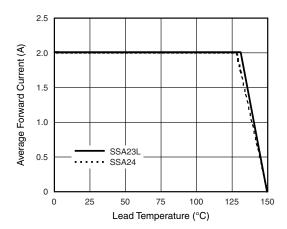


Fig. 1 - Forward Current Derating Curve

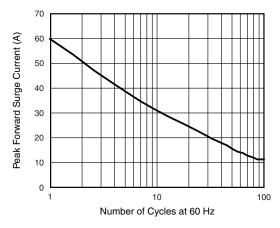


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

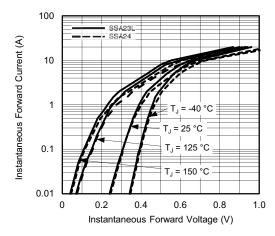


Fig. 3 - Typical Instantaneous Forward Characteristics

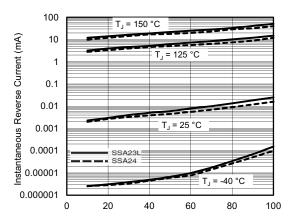


Fig. 4 - Typical Reverse Characteristics

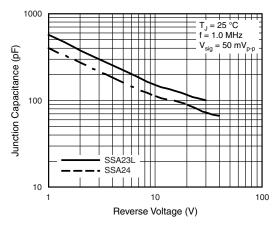


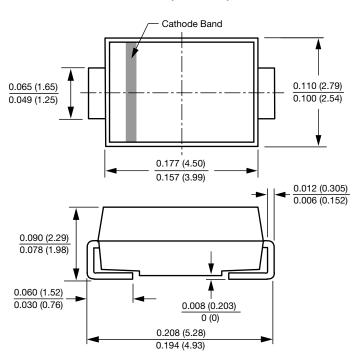
Fig. 5 - Typical Junction Capacitance

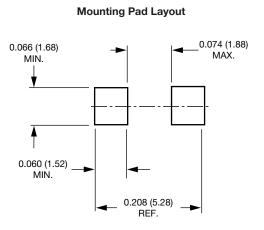


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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMA (DO-214AC)







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