SSA23L, SSA24

Vishay General Semiconductor

High-Current Density Surface Mount Schottky Rectifier

DO-214AC (SMA)

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
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- **Halogen-free according to IEC 61249-2-21 definition**

RoHS COMPLIANT
HALOGEN FREE

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

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 1A 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 currentat T_L (fig. 1)	$I_{F(AV)}$	2.0		A
Peak forward surge current 8.3 ms single halfsine-wave superimposed on rated load	I_{FSM}	60		A
Non-repetitive avalanche energy at T_A = 25 °C, I_{AS} = 1.5 A, L = 10 mH	E_{AS}	11.25		mJ
Voltage rate of change (rated V_R)	dV/dt	10 000		V/µs
Operating junction temperature range	T_J	- 65 to + 150		°C
Storage temperature range	T_{STG}	- 65 to + 150		°C

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DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	SSA23L		SSA24		UNIT
				TYP.	MAX.	TYP.	MAX.	
Maximum instantaneous forward voltage	2.0 A	T_J = 25 °C	V_F (1)	0.43	0.45	0.45	0.49	V
		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	SYMBOL	SSA23L	SSA24	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	110		°C/W
	$R_{\theta JL}$ (1)	28		

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

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

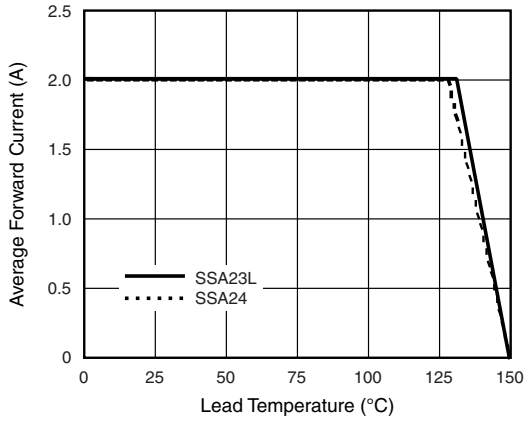

Fig. 1 - Forward Current Derating Curve

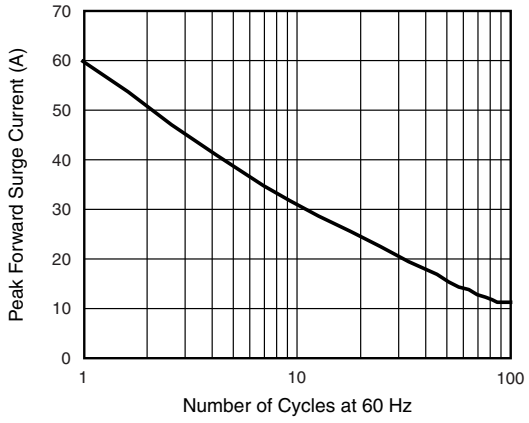

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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Document Number: 89280
Revision: 20-Apr-11

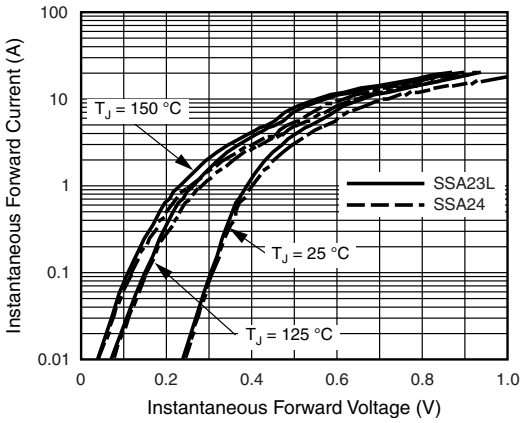


Fig. 3 - Typical Instantaneous Forward Characteristics

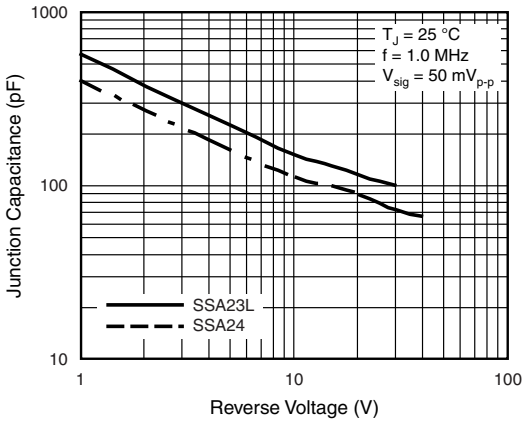


Fig. 5 - Typical Junction Capacitance

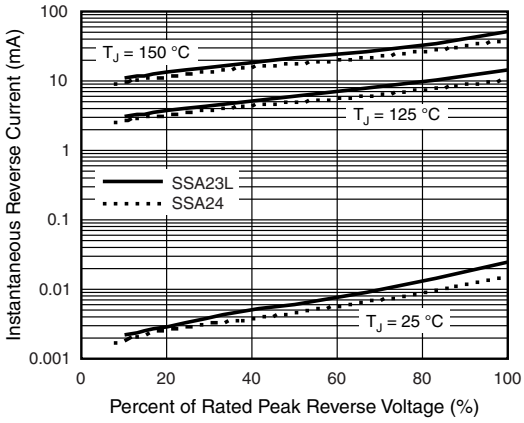
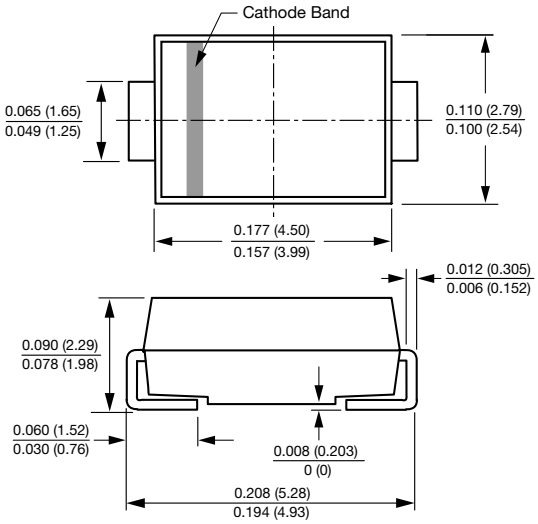
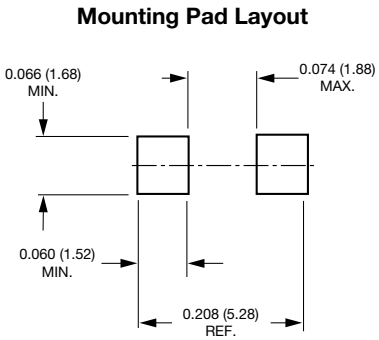


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)





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