New Product

SS22S, SS23S & SS24S

Vishay General Semiconductor

Surface Mount Schottky Barrier Rectifier

DO-214AC (SMA)

FEATURES

- Low profile package
- Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 A
V_{RRM}	20 V, 30 V, 40 V
I_{FSM}	40 A
V_F at I_F = 2.0 A	0.517 V
T_J max.	150 °C

TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.
(Note: These devices are not Q101 qualified.)

MECHANICAL DATA

Case: DO-214AC (SMA)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
E3 suffix for consumer grade, 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	SS22S	SS23S	SS24S	UNIT
Device marking code		22S	23S	24S	V
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum average forward rectified current (Fig. 1)	$I_{F(AV)}$	2.0			A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	40			A
Voltage rate of change (rated V_R)	dV/dt	10 000			V/µs
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150			°C

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ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**TYP**	**MAX.**	**UNIT**
Instantaneous forward voltage (1)	I_F = 1 A, I_F = 2 A,	T_J = 25 °C	V_F	0.436 0.517	- 0.55	V
Reverse current (2)	rated V_R	T_J = 25 °C T_J = 100 °C	I_R	13 1.65	200 8	µA mA
Typical junction capacitance	4.0 V, 1 MHz		C_J	130	-	pF

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**	**SS22S**	**SS23S**	**SS24S**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$		75 25		°C/W

Note:

(1) P.C.B. mounted with 0.4 x 0.4" (10 x 10 mm) copper pad areas

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
SS24S-E3/61T	0.064	61T	1800	7" diameter plastic tape and reel
SS24S-E3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

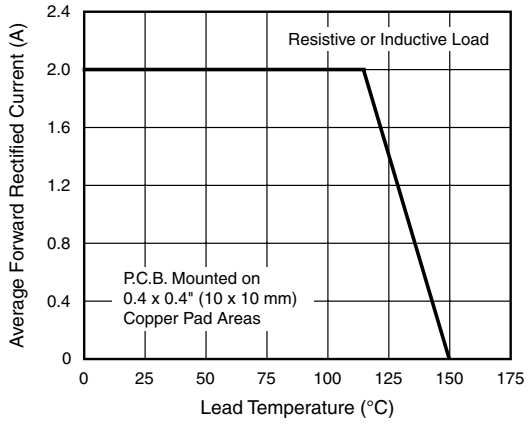

Figure 1. Forward Current Derating Curve

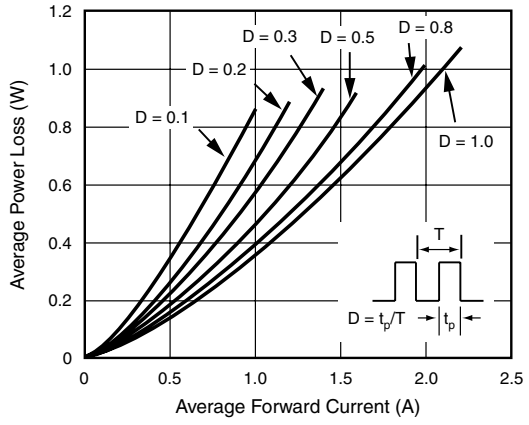

Figure 2. Forward Power Loss Characteristics

For technical questions within your region, please contact one of the following:
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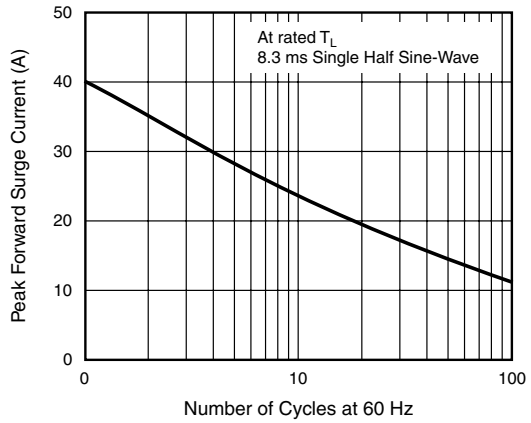


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

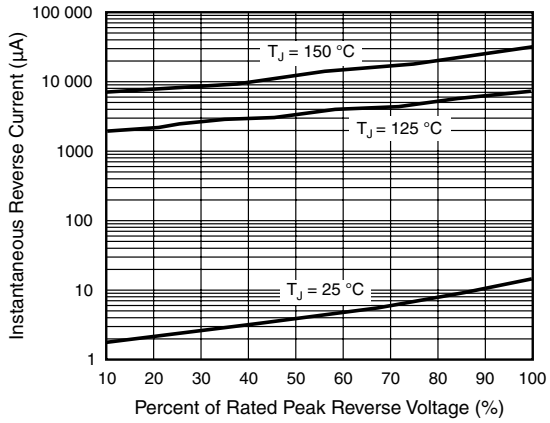


Figure 5. Typical Reverse Leakage Characteristics

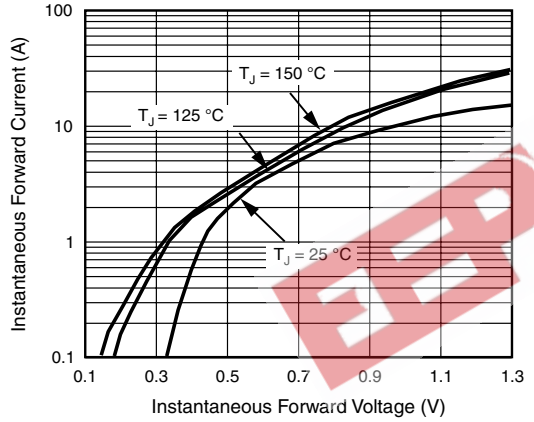


Figure 4. Typical Instantaneous Forward Characteristics

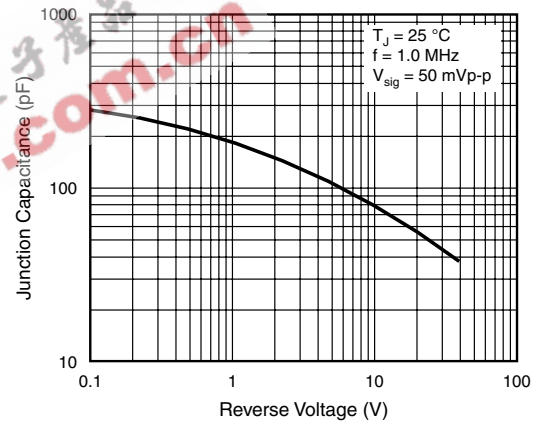
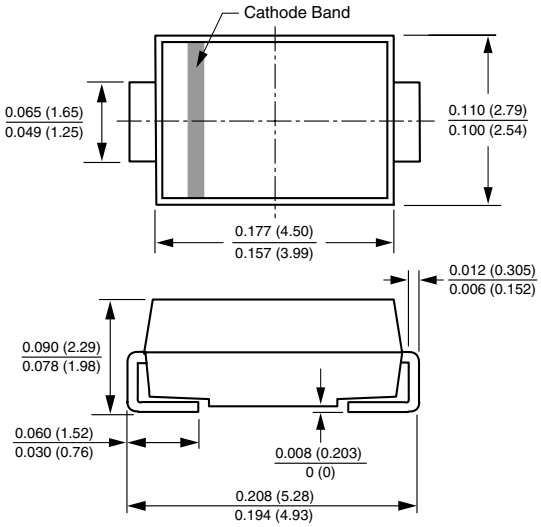


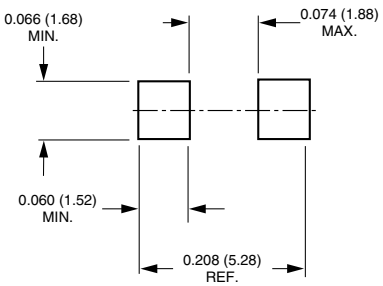
Figure 6. Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)



Mounting Pad Layout



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