

**High Current Density Surface Mount Schottky Rectifier****DO-214AB (SMC)****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
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

**RoHS**  
COMPLIANT**PRIMARY CHARACTERISTICS**

$I_{F(AV)}$	5.0 A
$V_{RRM}$	30 V, 40 V
$I_{FSM}$	175 A
$V_F$	0.38 V, 0.42 V
$T_J$ max.	150 °C
Package	DO-214AB (SMC)
Diode variations	Single

**TYPICAL APPLICATIONS**

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

**MECHANICAL DATA**

**Case:** DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade  
Base P/NHE3\_X - RoHS-compliant and AEC-Q101 qualified  
("\_X" denotes revision code e.g. A, B, ....)

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes the cathode end

**MAXIMUM RATINGS** ( $T_A = 25\text{ °C}$  unless otherwise noted)

PARAMETER	SYMBOL	SSC53L	SSC54	UNIT
Device marking code		53L	S54	
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)	$I_{F(AV)}$	5.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	175		A
Voltage rate of change (rated $V_R$ )	$dV/dt$	10 000		V/ $\mu$ s
Operating junction temperature range	$T_J$	-65 to +150		°C
Storage temperature range	$T_{STG}$	-65 to +150		°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	SSC53L		SSC54		UNIT
				TYP.	MAX.	TYP.	MAX.	
Maximum instantaneous forward voltage <sup>(1)</sup>	5.0 A	T <sub>J</sub> = 25 °C	V <sub>F</sub>	0.42	0.45	0.45	0.49	V
		T <sub>J</sub> = 125 °C		0.33	0.38	0.36	0.42	
Maximum reverse current at rated V <sub>R</sub> <sup>(2)</sup>		T <sub>J</sub> = 25 °C	I <sub>R</sub>	-	0.7	-	0.5	mA
		T <sub>J</sub> = 125 °C		45	65	40	60	

**Notes**<sup>(1)</sup> Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle<sup>(2)</sup> Pulse test: Pulse width  $\leq 40\text{ ms}$ **THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	SSC53L	SSC54	UNIT
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	60		°C/W
	R <sub>θJL</sub>	20		

**Note**<sup>(1)</sup> Aluminum substrate mounted**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SSC53L-E3/57T	0.235	57T	850	7" diameter plastic tape and reel
SSC53L-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel
SSC53LHE3_A/H <sup>(1)</sup>	0.235	H	850	7" diameter plastic tape and reel
SSC53LHE3_A/I <sup>(1)</sup>	0.235	I	3500	13" diameter plastic tape and reel

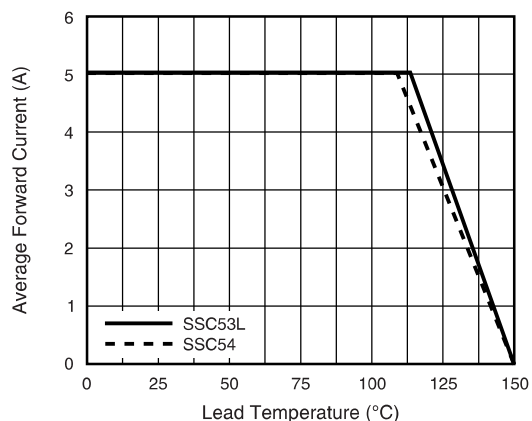
**Note**<sup>(1)</sup> AEC-Q101 qualified**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

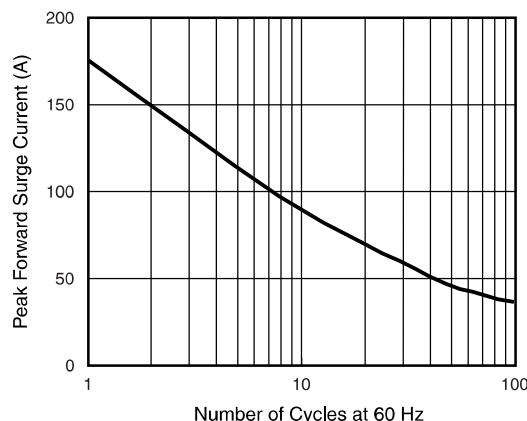


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

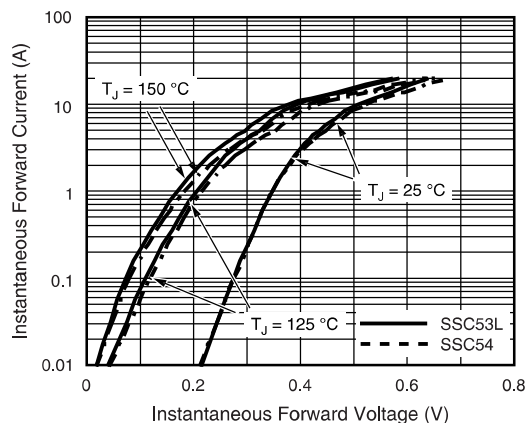


Fig. 3 - Typical Instantaneous Forward Characteristics

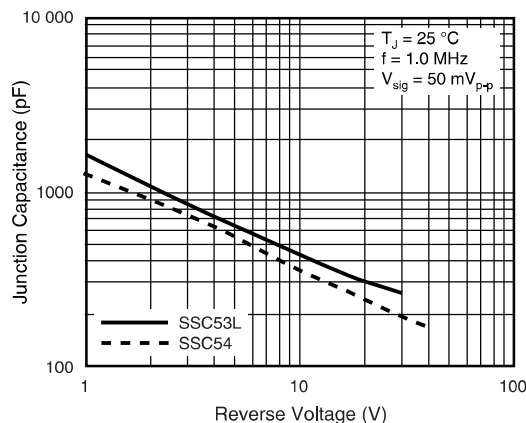


Fig. 5 - Typical Junction Capacitance

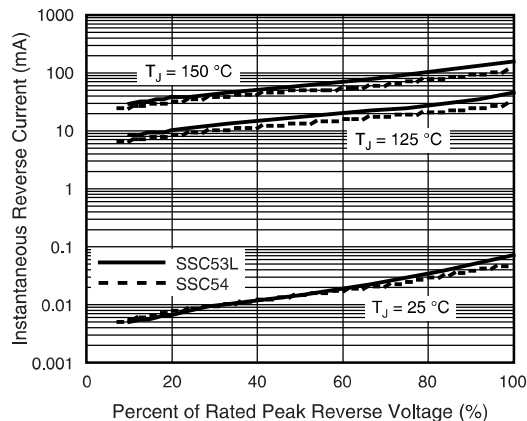
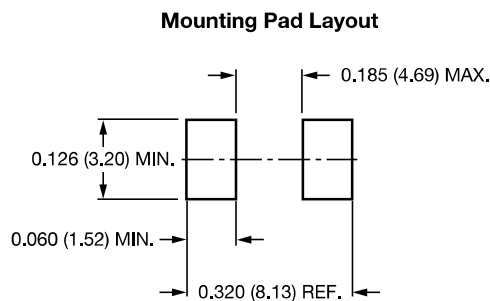
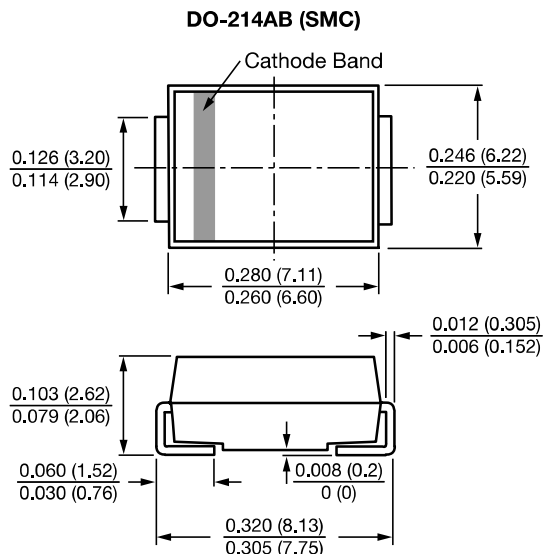


Fig. 4 - Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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