

# **Schottky Rectifier Surface-Mount**

# eSMP® Series

### **LINKS TO ADDITIONAL RESOURCES**

**SMF (DO-219AB)** 



## **MECHANICAL DATA**

Case: SMF (DO-219AB)

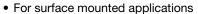
Polarity: color band denotes cathode end

Weight: approx. 15 mg
Packaging codes / options:

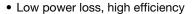
GS18/10K per 13" reel (8 mm tape), MOQ = 50K GS08/3K per 7" reel (8 mm tape), MOQ = 30K

Circuit configuration: single

#### **FEATURES**







• Oxide planar chip junction

 Meets MSL level 1, per J-STD-020, LF maximum COMPLIANT peak of 260 °C

• Meets JESD 201 class 2 whisker test

Wave and reflow solderable

• AEC-Q101 qualified

 Compatible to SOD-123W package case outline or SOD-123F and SOD-123FL

 Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>

PARTS TABLE						
PART	ORDERING CODE	MARKING	REMARKS			
SL02	SL02-GS18 or SL02-GS08	S2	Tape and reel			
SL03	SL03-GS18 or SL03-GS08	S3	Tape and reel			

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
Maximum repetitive peak reverse voltage		SL02	$V_{RRM}$	20	V	
		SL03	$V_{RRM}$	30	V	
Marrian DMC valtage		SL02	V <sub>RMS</sub>	14	V	
Maximum RMS voltage		SL03	V <sub>RMS</sub>	21	V	
Marrian DC blacking walks		SL02	$V_{DC}$	20	V	
Maximum DC blocking voltage		SL03	$V_{DC}$	30	V	
Maximum average forward rectified current	T <sub>L</sub> = 109 °C		I <sub>F(AV)</sub>	1.1	Α	
Peak forward surge current 8.3 ms single half sine-wave			I <sub>FSM</sub>	40	А	

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air (1)		R <sub>thJA</sub>	180	K/W	
Maximum operating junction temperature		Tj	125	°C	
Storage temperature range		T <sub>stg</sub>	-55 to +150	°C	

#### Note

<sup>(1)</sup> Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ( $\geq$  40  $\mu$ m thick)



<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Instantaneous forward voltage	I <sub>F</sub> = 0.5 A <sup>(1)</sup>	SL02	$V_{F}$		0.360	0.385	V
		SL03	$V_{F}$		0.395	0.43	V
Typical instantaneous forward voltage	I <sub>F</sub> = 1.1 A	SL02	$V_{F}$		0.420		V
		SL03	$V_{F}$		0.450		V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> = 25 °C	SL02	I <sub>R</sub>			250	μA
	T <sub>A</sub> = 100 °C	SL02	I <sub>R</sub>			8	mA
	T <sub>A</sub> = 25 °C	SL03	I <sub>R</sub>			130	μA
	T <sub>A</sub> = 100 °C	SL03	I <sub>R</sub>			6	mA
Reverse recovery time		SL02	t <sub>rr</sub>			< 10	ns
		SL03	t <sub>rr</sub>			< 10	ns

#### Note

## TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

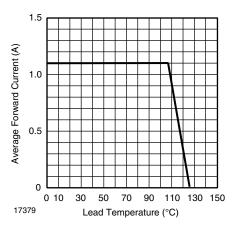


Fig. 1 - Forward Current Derating Curve

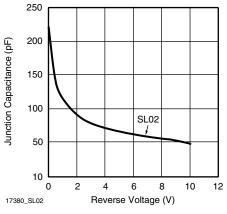


Fig. 2 - Typical Junction Capacitance

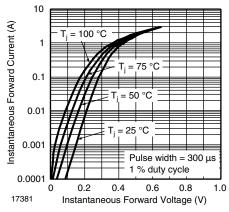


Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

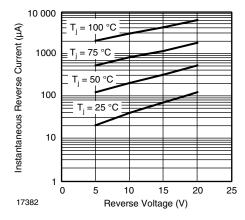


Fig. 4 - Typical Reverse Current Characteristics - SL02

<sup>(1)</sup> Pulse test: 300 µs pulse width, 1 % duty cycle



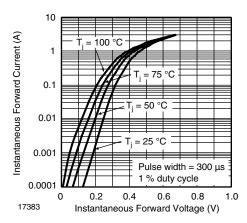


Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

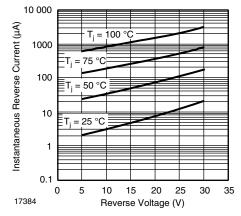
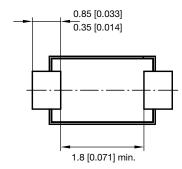
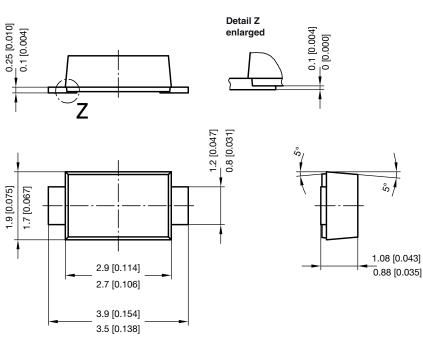


Fig. 6 - Typical Reverse Current Characteristics - SL03

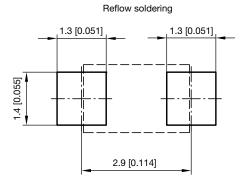


## PACKAGE DIMENSIONS in millimeters (inches): SMF (DO-219AB)





foot print recommendation:



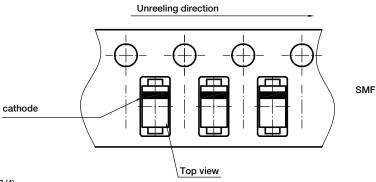
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## **ORIENTATION IN CARRIER TAPE - SMF (DO-219AB)**



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