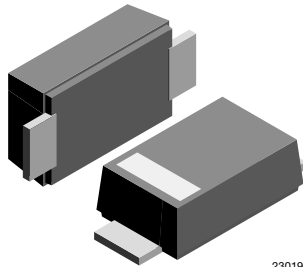
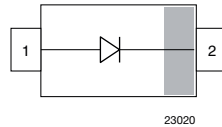


Schottky Rectifier Surface-Mount

eSMP® Series



SMF (DO-219AB)



23020

FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- Oxide planar chip junction
- Meets MSL level 1, per J-STD-020, LF maximum 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 www.vishay.com/doc?99912


RoHS
COMPLIANT
HALOGEN
FREE

LINKS TO ADDITIONAL RESOURCES



3D Models

MECHANICAL DATA

Case: SMF (DO-219AB)

Polarity: color band denotes cathode end

Weight: approx. 15 mg

Packaging codes / options:

18/10K per 13" reel (8 mm tape), MOQ = 50K

08/3K per 7" reel (8 mm tape), MOQ = 30K

Circuit configuration: single

PARTS TABLE

PART	ORDERING CODE	MARKING	REMARKS
SL02-M	SL02-M-18 or SL02-M-08	U2	Tape and reel
SL03-M	SL03-M-18 or SL03-M-08	U3	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		SL02-M	V_{RRM}	20	V
		SL03-M	V_{RRM}	30	V
Maximum RMS voltage		SL02-M	V_{RMS}	14	V
		SL03-M	V_{RMS}	21	V
Maximum DC blocking voltage		SL02-M	V_{DC}	20	V
		SL03-M	V_{DC}	30	V
Maximum average forward rectified current	$T_L = 109\text{ °C}$		$I_{F(AV)}$	1.1	A
Peak forward surge current 8.3 ms single half sine-wave			I_{FSM}	40	A

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	180	K/W
Maximum operating junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	-55 to +150	°C

Note

⁽¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ($\geq 40\text{ }\mu\text{m}$ thick)

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Instantaneous forward voltage	$I_F = 0.5\text{ A}$ ⁽¹⁾	SL02-M	V_F		0.360	0.385	V
		SL03-M	V_F		0.395	0.43	V
Typical instantaneous forward voltage	$I_F = 1.1\text{ A}$	SL02-M	V_F		0.420		V
		SL03-M	V_F		0.450		V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$	SL02-M	I_R			250	μA
	$T_A = 100\text{ }^{\circ}\text{C}$	SL02-M	I_R			8	mA
	$T_A = 25\text{ }^{\circ}\text{C}$	SL03-M	I_R			130	μA
	$T_A = 100\text{ }^{\circ}\text{C}$	SL03-M	I_R			6	mA
Reverse recovery time		SL02-M	t_{rr}			< 10	ns
		SL03-M	t_{rr}			< 10	ns

Note

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

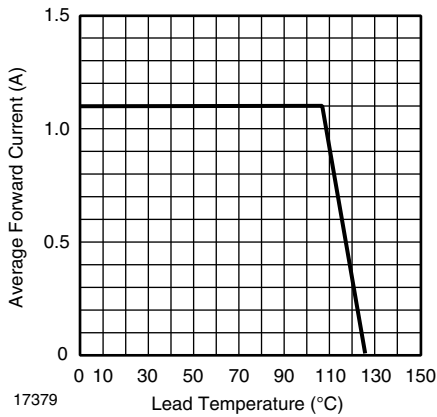


Fig. 1 - Forward Current Derating Curve

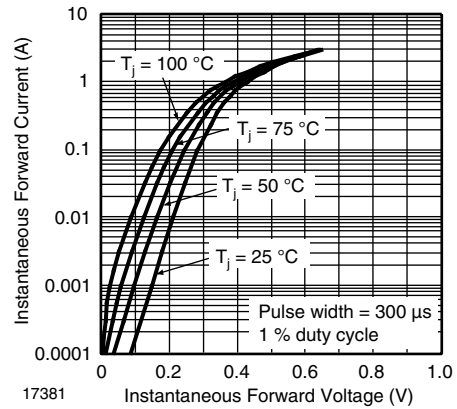


Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

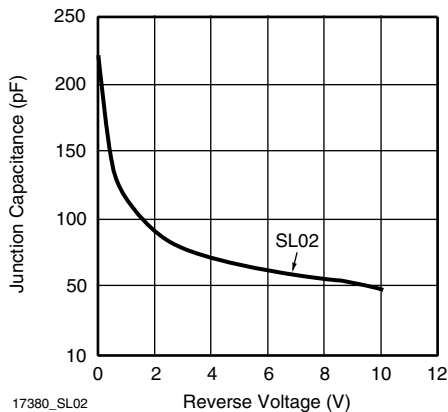


Fig. 2 - Typical Junction Capacitance

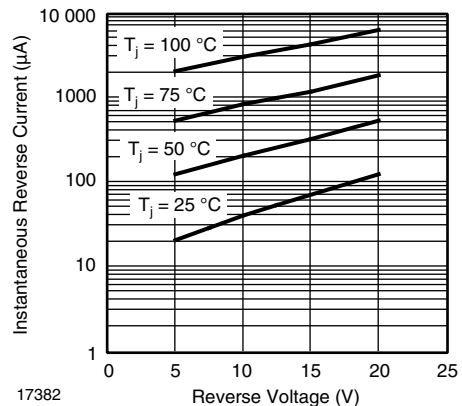


Fig. 4 - Typical Reverse Current Characteristics - SL02

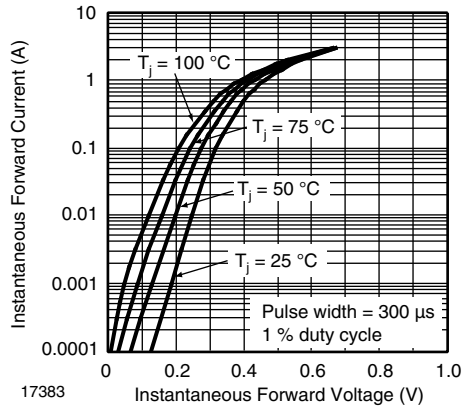


Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

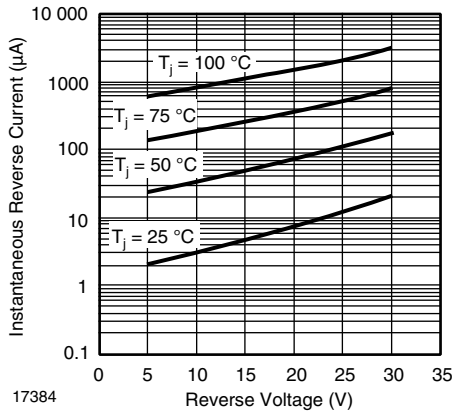
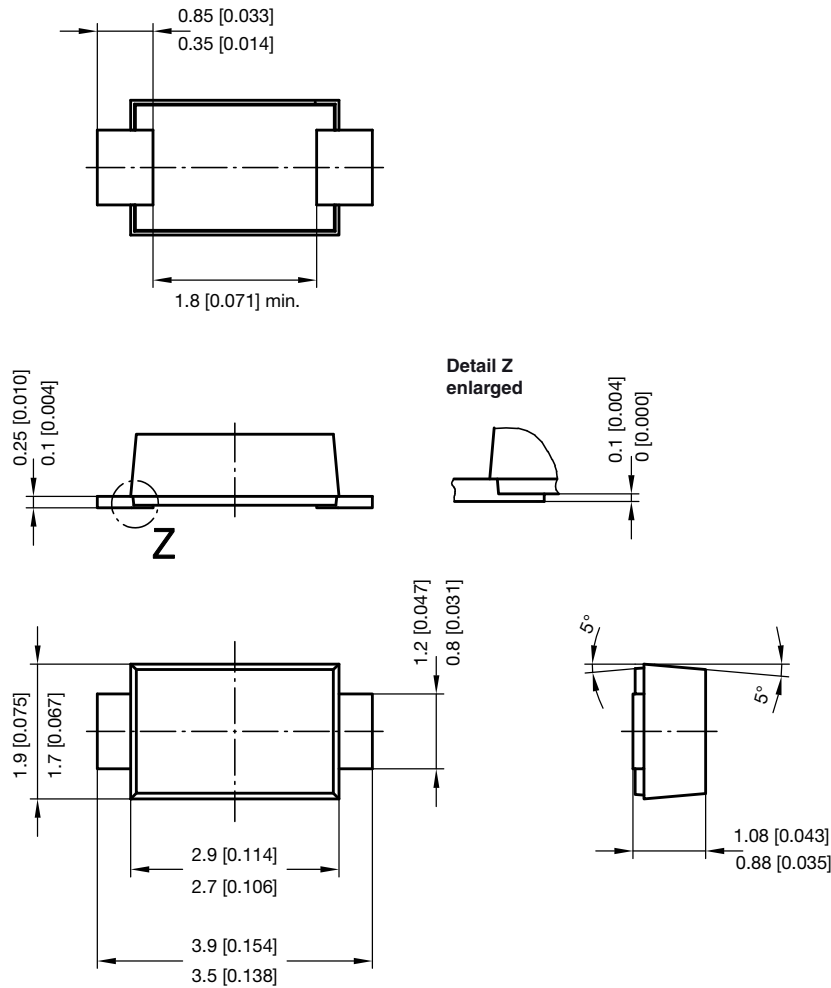


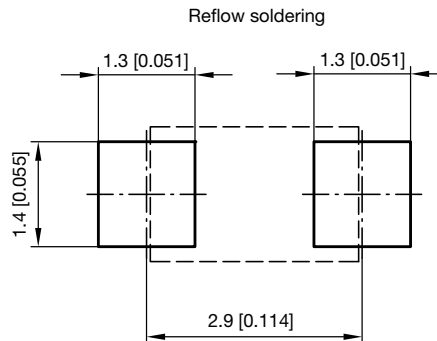
Fig. 6 - Typical Reverse Current Characteristics - SL03



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



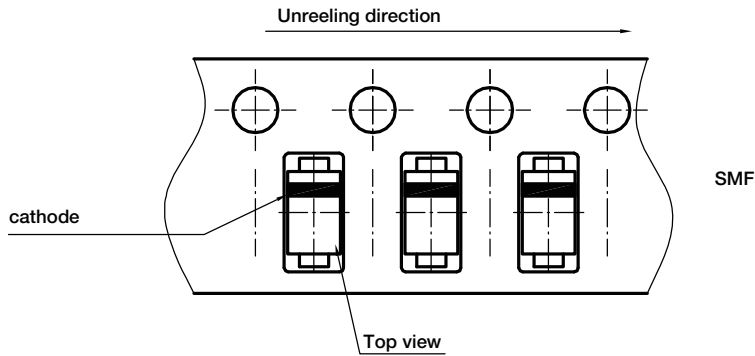
foot print recommendation:



Created - Date: 15. February 2005
Rev. 6 - Date: 24.Feb.2021
Document no.: S8-V-3915.01-001 (4)
22989



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



Document no.: S8-V-3717.02-003 (4)
Created - Date: 09. Feb. 2010
22670



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