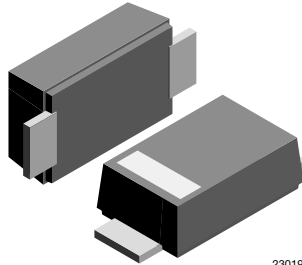
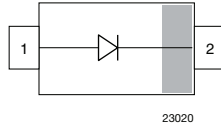


Schottky Rectifier Surface-Mount

eSMP® Series



SMF (DO-219AB)



23020


RoHS
COMPLIANT

FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- 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 available
- Base P/N-E3 - RoHS-compliant and commercial grade
- Base P/N-HE3 - RoHS-compliant and 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

LINKS TO ADDITIONAL RESOURCES



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

TYPICAL APPLICATIONS

For use in high frequency inverters, freewheeling, DC/DC converters, and polarity protection in commercial, industrial, and automotive applications.

PARTS TABLE			
PART	ORDERING CODE	MARKING	REMARKS
SL04	SL04-E3-18 or SL04-E3-08 SL04-HE3_A18 or SL04-HE3_A08	S4	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	40	V
Maximum average forward rectified current (fig. 4)		$I_{F(AV)}$	1.1	A
Peak forward surge current 8.3 ms single half sine-wave $T_{J(\text{init})} = 25\text{ }^{\circ}\text{C}$		I_{FSM}	40	A

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to lead		R_{thJL}	22	K/W
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	180	K/W
Junction temperature in DC forward current without reverse bias		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-55 to +175	$^{\circ}\text{C}$

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 CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	$I_F = 0.5\text{ A}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_F^{(1)}$	0.41	0.47	V
				$I_F = 1.1\text{ A}$	0.48	
	$I_F = 0.5\text{ A}$	$T_J = 100\text{ }^{\circ}\text{C}$		0.34	-	
				$I_F = 1.1\text{ A}$	0.43	
	$I_F = 0.5\text{ A}$	$T_J = 125\text{ }^{\circ}\text{C}$		0.31	-	
				$I_F = 1.1\text{ A}$	0.42	
Reverse current	$V_R = 40\text{ V}$	$T_J = 25\text{ }^{\circ}\text{C}$	I_R	10	20	μA
		$T_J = 100\text{ }^{\circ}\text{C}$		1.2	2.6	mA
		$T_J = 125\text{ }^{\circ}\text{C}$		4.5	13	mA
Typical junction capacitance	$V_R = 4.0\text{ V}, 1\text{ MHz}$		C_D	65	-	pF

Note

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

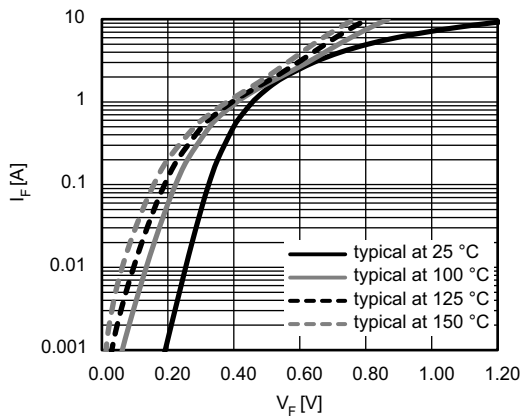
RATINGS AND CHARACTERISTICS CURVES ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Characteristics

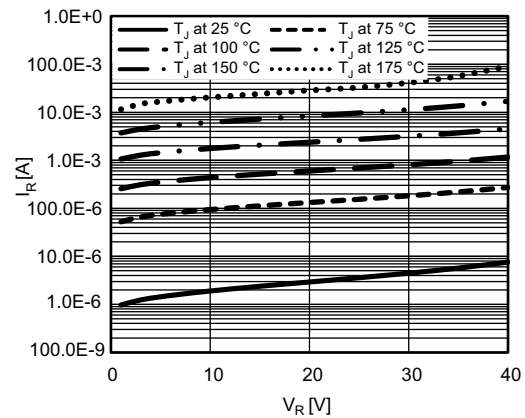


Fig. 3 - Typical Reverse Characteristics

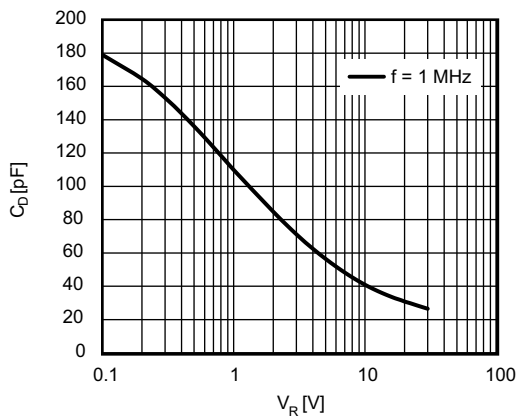


Fig. 2 - Typical Diode Capacitance vs. Reverse Voltage

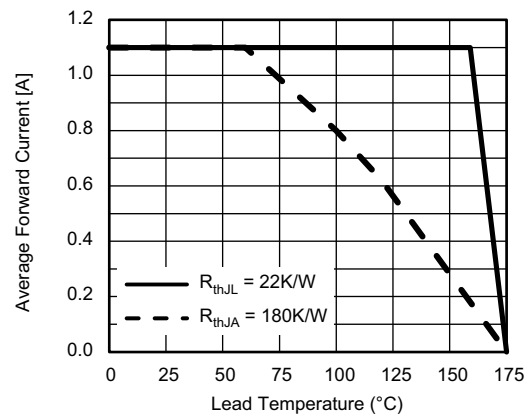


Fig. 4 - Forward Current Derating Curve

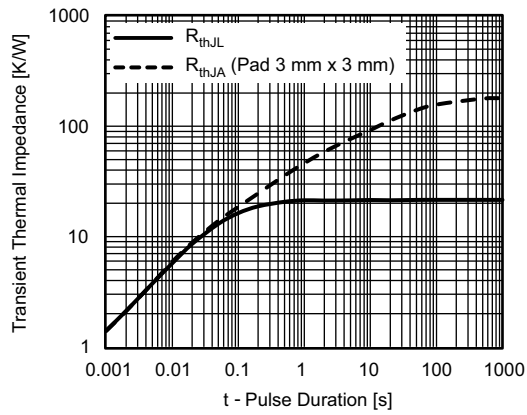
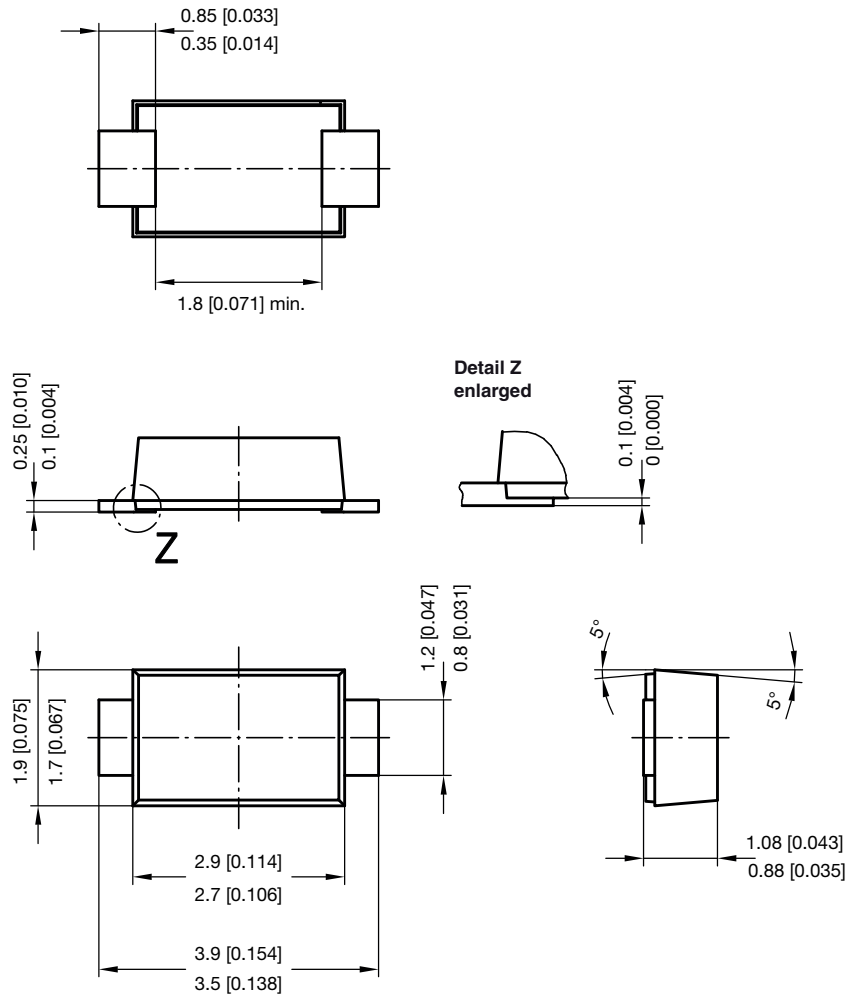
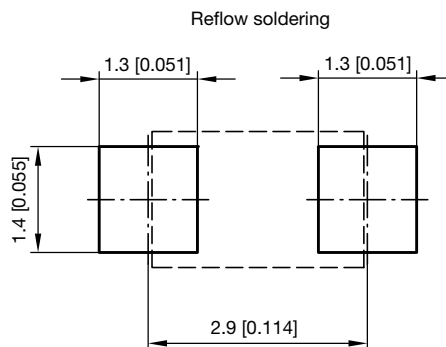


Fig. 5 - Typical Transient Thermal Impedance

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

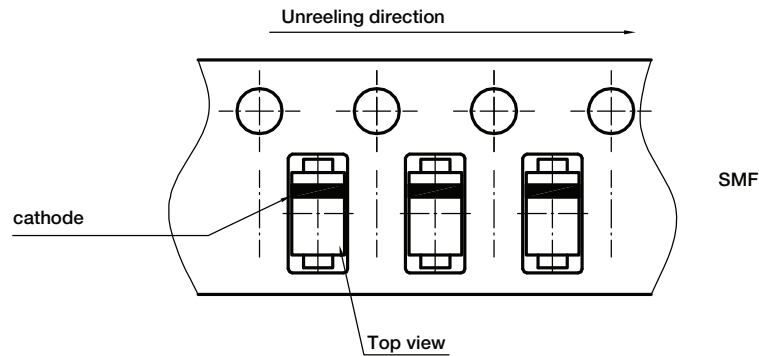


foot print recommendation:



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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