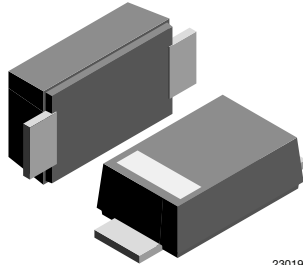


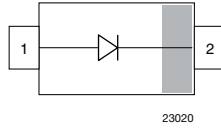
Standard Recovery Rectifier High Voltage Surface Mount

eSMP® Series



SMF (DO-219AB)

23019



23020

FEATURES

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- 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
- Base P/N-E3 - RoHS-compliant
Base P/N-GS - 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


RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SMF (DO-219AB)

Polarity: band denotes cathode end

Weight: approx. 15 mg

Packaging codes / options:

GS18/10K per 13" reel (8 mm tape)

GS08/3K per 7" reel (8 mm tape)

Circuit configuration: single

PARTS TABLE			
PART	ORDERING CODE	MARKING	REMARKS
S07B	S07B-E3-18 or S07B-E3-08	Y0	Tape and reel
	S07B-GS18 or S07B-GS08	SB	
S07D	S07D-E3-18 or S07D-E3-08	Y1	Tape and reel
	S07D-GS18 or S07D-GS08	SD	
S07G	S07G-E3-18 or S07G-E3-08	Y2	Tape and reel
	S07G-GS18 or S07G-GS08	SG	
S07J	S07J-E3-18 or S07J-E3-08	Y3	Tape and reel
	S07J-GS18 or S07J-GS08	SJ	
S07M	S07M-E3-18 or S07M-E3-08	Y4	Tape and reel
	S07M-GS18 or S07M-GS08	SM	



ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		S07B	V _{RRM}	100	V
		S07D	V _{RRM}	200	V
		S07G	V _{RRM}	400	V
		S07J	V _{RRM}	600	V
		S07M	V _{RRM}	1000	V
Maximum RMS voltage		S07B	V _{RMS}	70	V
		S07D	V _{RMS}	140	V
		S07G	V _{RMS}	280	V
		S07J	V _{RMS}	420	V
		S07M	V _{RMS}	700	V
Maximum DC blocking voltage		S07B	V _{DC}	100	V
		S07D	V _{DC}	200	V
		S07G	V _{DC}	400	V
		S07J	V _{DC}	600	V
Maximum average forward rectified current	T _L = 110 °C ⁽¹⁾		I _{F(AV)}	1.5	A
	T _A = 65 °C ⁽¹⁾		I _{F(AV)}	0.7	A
Peak forward surge current 8.3 ms single half sine-wave	T _L = 25 °C		I _{FSM}	25	A

Note

⁽¹⁾ Averaged over any 20 ms period

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	180	K/W
Operating junction and storage temperature range		T _j , T _{stg}	-65 to +175	°C

Note

⁽¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm Cu pads (≥ 40 μm thick)

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 1 A ⁽¹⁾	S07B	V _F			1.1	V
		S07D	V _F			1.1	V
		S07G	V _F			1.1	V
		S07J	V _F			1.1	V
		S07M	V _F			1.1	V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C	S07B	I _R			10	μA
		S07D	I _R			10	μA
		S07G	I _R			10	μA
		S07J	I _R			10	μA
		S07M	I _R			10	μA
	T _A = 125 °C	S07B	I _R			50	μA
		S07D	I _R			50	μA
		S07G	I _R			50	μA
		S07J	I _R			50	μA
		S07M	I _R			50	μA
Reverse recovery time	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	S07B	t _{rr}			1800	ns
		S07D	t _{rr}			1800	ns
		S07G	t _{rr}			1800	ns
		S07J	t _{rr}			1800	ns
		S07M	t _{rr}			1800	ns
Typical capacitance	4 V, 1 MHz	S07B	C _j		4		pF
		S07D	C _j		4		pF
		S07G	C _j		4		pF
		S07J	C _j		4		pF
		S07M	C _j		4		pF

Note

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

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

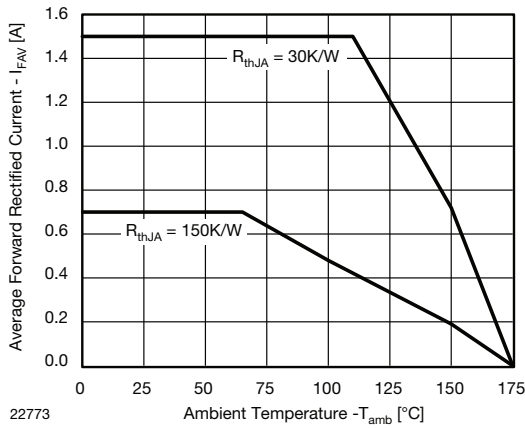


Fig. 1 - Forward Current Derating Curve

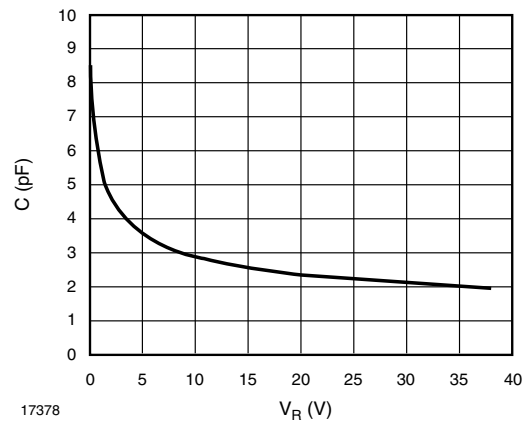


Fig. 4 - Capacitance vs. Reverse Voltage

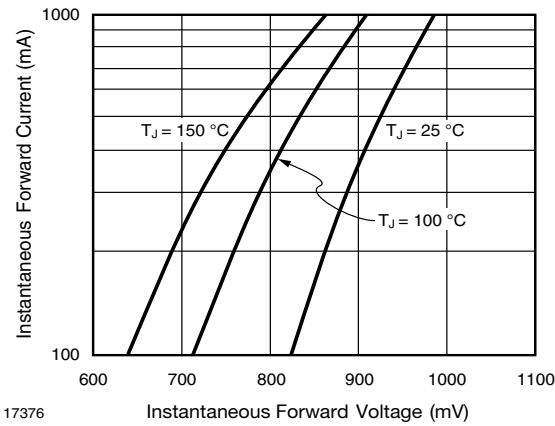


Fig. 2 - Typical Instantaneous Forward Characteristics

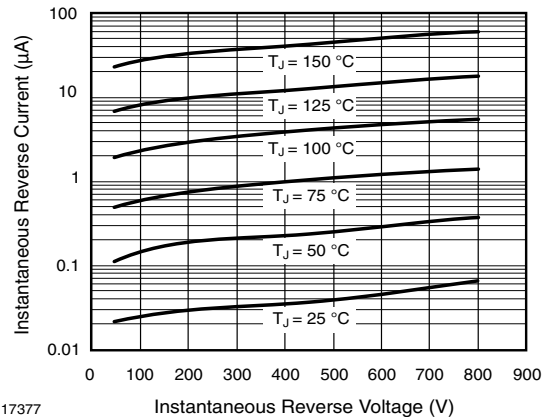
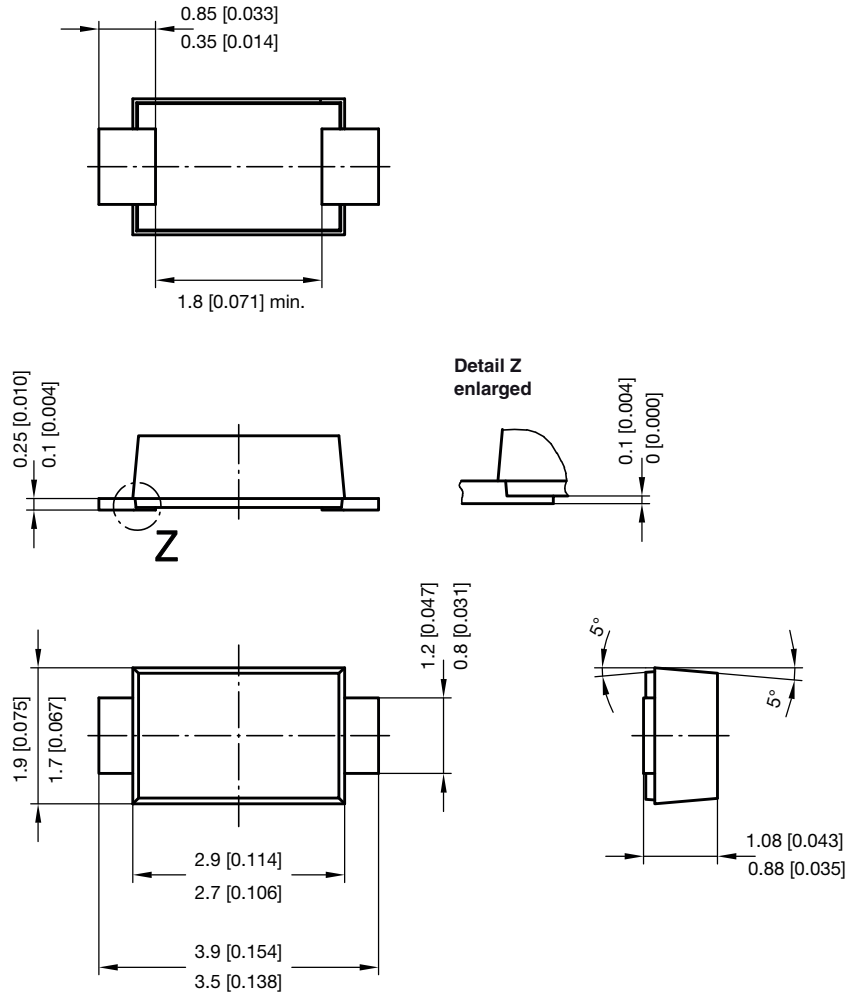


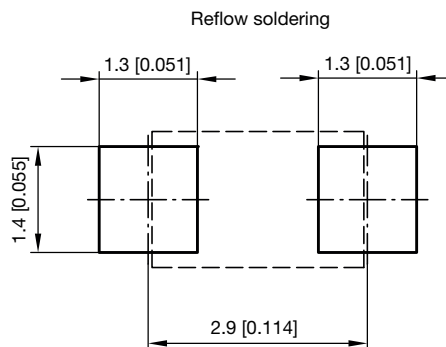
Fig. 3 - Typical Instantaneous Reverse Characteristics



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



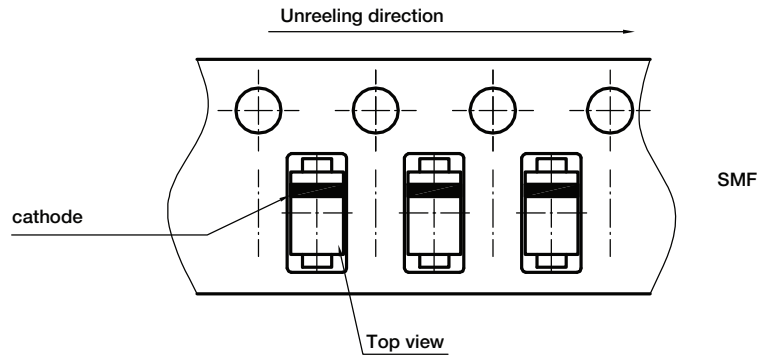
foot print recommendation:



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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