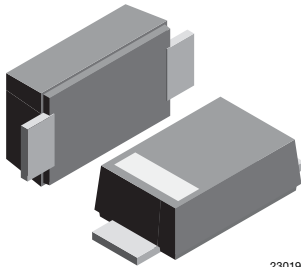




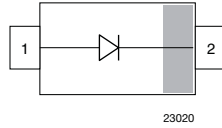
Standard Recovery Rectifier, High Voltage Surface Mount

eSMP® Series



SMF (DO-219AB)

23019



23020

FEATURES

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- High temperature soldering: 260 °C / 10 s at terminals
- Wave and reflow solderable
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

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), MOQ = 50K

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

Circuit configuration: single

ADDITIONAL RESOURCES



3D Models

PARTS TABLE			
PART	ORDERING CODE	MARKING	REMARKS
S1FLB	S1FLB-GS18 or S1FLB-GS08	FB	Tape and reel
S1FLD	S1FLD-GS18 or S1FLD-GS08	FD	Tape and reel
S1FLG	S1FLG-GS18 or S1FLG-GS08	FG	Tape and reel
S1FLJ	S1FLJ-GS18 or S1FLJ-GS08	FJ	Tape and reel
S1FLK	S1FLK-GS18 or S1FLK-GS08	FK	Tape and reel
S1FLM	S1FLM-GS18 or S1FLM-GS08	FM	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		S1FLB	V _{RRM}	100	V
		S1FLD	V _{RRM}	200	V
		S1FLG	V _{RRM}	400	V
		S1FLJ	V _{RRM}	600	V
		S1FLK	V _{RRM}	800	V
		S1FLM	V _{RRM}	1000	V
Maximum RMS voltage		S1FLB	V _{RMS}	70	V
		S1FLD	V _{RMS}	140	V
		S1FLG	V _{RMS}	280	V
		S1FLJ	V _{RMS}	420	V
		S1FLK	V _{RMS}	560	V
		S1FLM	V _{RMS}	700	V
Maximum DC blocking voltage		S1FLB	V _{DC}	100	V
		S1FLD	V _{DC}	200	V
		S1FLG	V _{DC}	400	V
		S1FLJ	V _{DC}	600	V
		S1FLK	V _{DC}	800	V
		S1FLM	V _{DC}	1000	V
Maximum average forward rectified current	T _L = 75 °C		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}	22	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}	-55 to +150	°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	
Maximum instantaneous forward voltage	1 A ⁽¹⁾	S1FLB	V _F			1.1	V	
		S1FLD	V _F			1.1	V	
		S1FLG	V _F			1.1	V	
		S1FLJ	V _F			1.1	V	
		S1FLK	V _F			1.1	V	
		S1FLM	V _F			1.1	V	
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C	S1FLB	I _R			10	μA	
		S1FLD	I _R			10	μA	
		S1FLG	I _R			10	μA	
		S1FLJ	I _R			10	μA	
		S1FLK	I _R			10	μA	
		S1FLM	I _R			10	μA	
	T _A = 125 °C	S1FLB	I _R				50	μA
		S1FLD	I _R				50	μA
		S1FLG	I _R				50	μA
		S1FLJ	I _R				50	μA
		S1FLK	I _R				50	μA
		S1FLM	I _R				50	μA
Reverse recovery time	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	S1FLB	t _{rr}			1800	ns	
		S1FLD	t _{rr}			1800	ns	
		S1FLG	t _{rr}			1800	ns	
		S1FLJ	t _{rr}			1800	ns	
		S1FLK	t _{rr}			1800	ns	
		S1FLM	t _{rr}			1800	ns	
Typical capacitance	4 V, 1 MHz	S1FLB	C _j		4		pF	
		S1FLD	C _j		4		pF	
		S1FLG	C _j		4		pF	
		S1FLJ	C _j		4		pF	
		S1FLK	C _j		4		pF	
		S1FLM	C _j		4		pF	

Note

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



TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

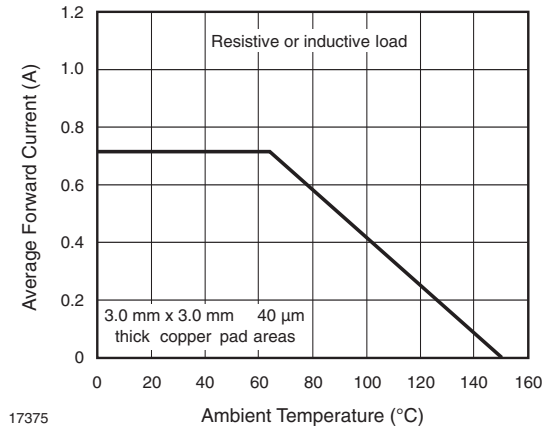


Fig. 1 - Forward Current Derating Curve

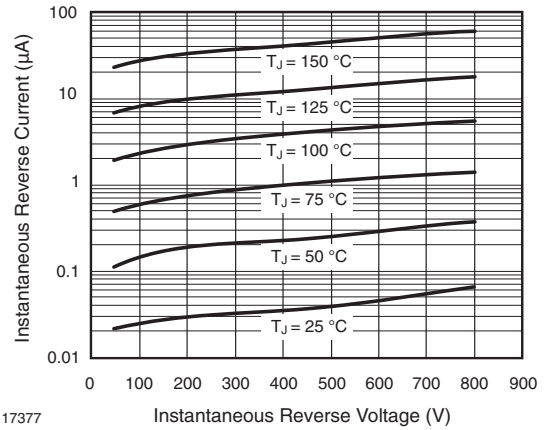


Fig. 3 - Typical Instantaneous Reverse Characteristics

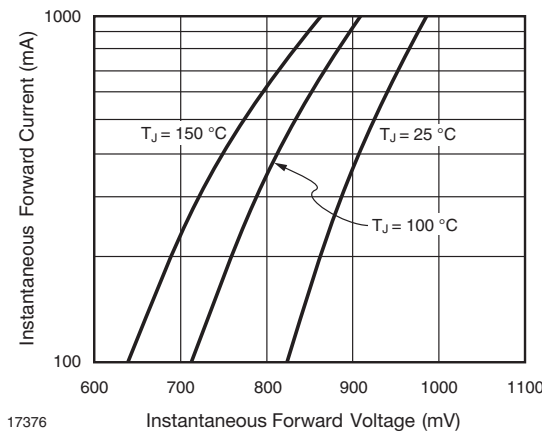


Fig. 2 - Typical Instantaneous Forward Characteristics

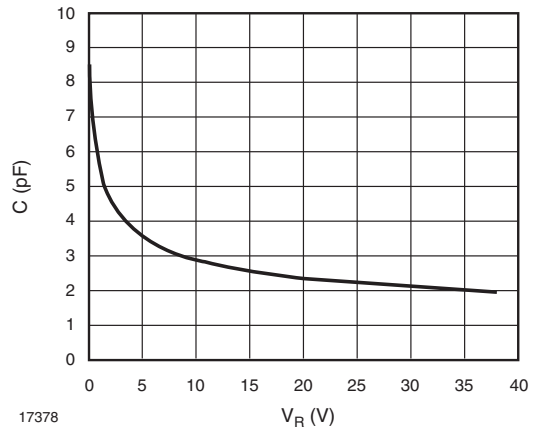
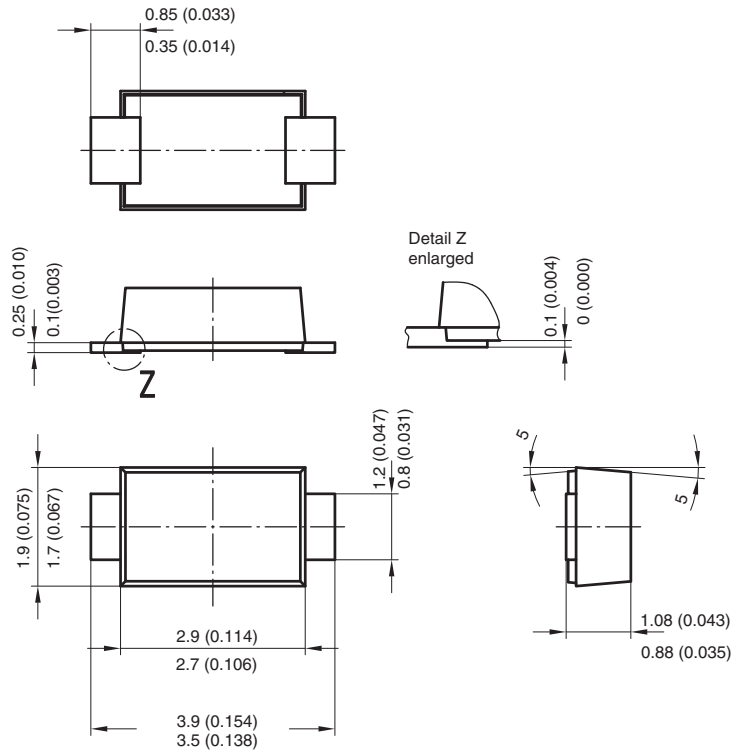


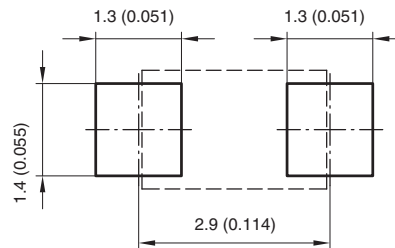
Fig. 4 - Capacitance vs. Reverse Voltage



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



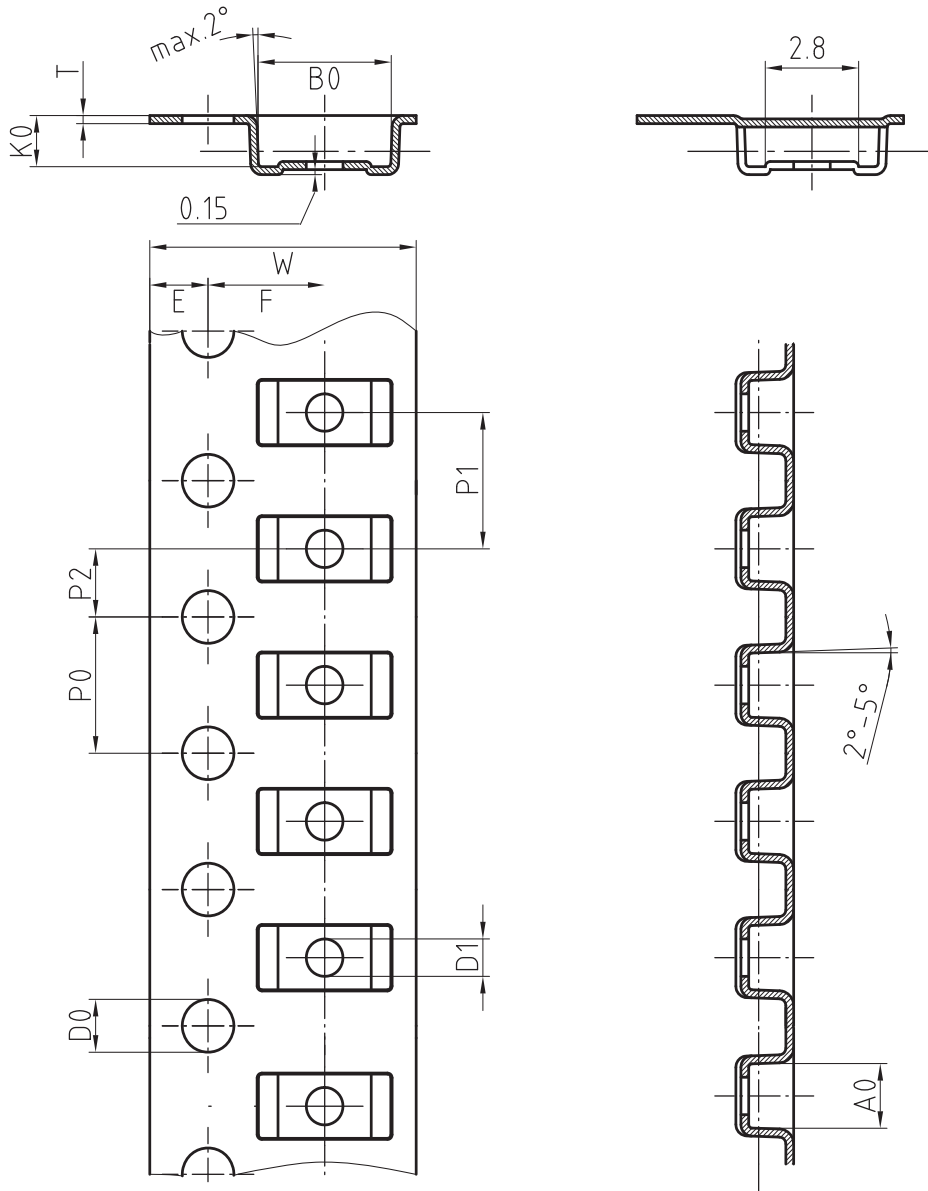
Foot print recommendation:



Created - Date: 15. February 2005
 Rev. 3 - Date: 13. March 2007
 Document no.: S8-V-3915.01-001 (4)
 17247



BLISTER TAPE DIMENSIONS in millimeters: **SMF (DO-219AB)**



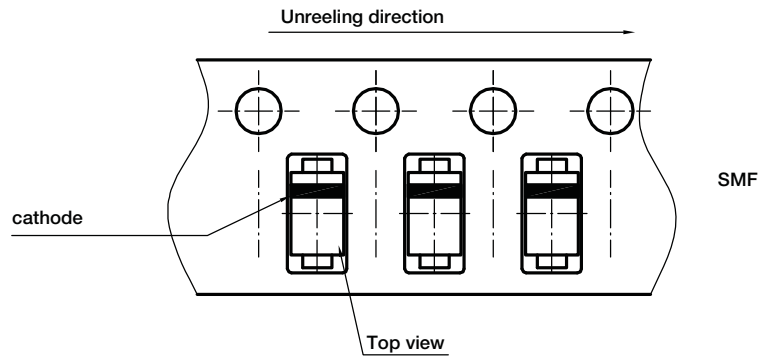
Mat:	A0	B0	K0	W	T	P0	P2	P1	D0	D1	E	F
PS	1.9	4.0	1.5	8.0	0.235	4.0	2.0	4.0	1.5	1	1.75	3.5

Document-No.: S8-V-3717.02-001 (3)

18513



ORIENTATION IN CARRIER TAPE - SMF



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



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