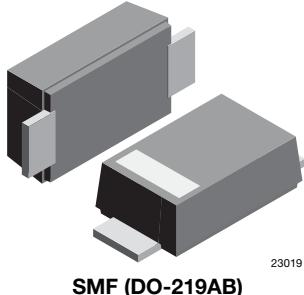
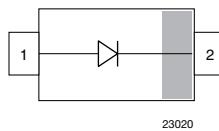


Standard Recovery Rectifier, High Voltage Surface Mount

eSMP® Series


SMF (DO-219AB)


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

ADDITIONAL RESOURCES


[3D Models](#)

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

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 ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, 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

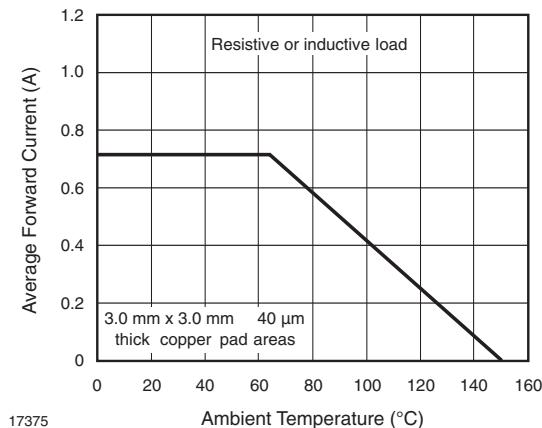
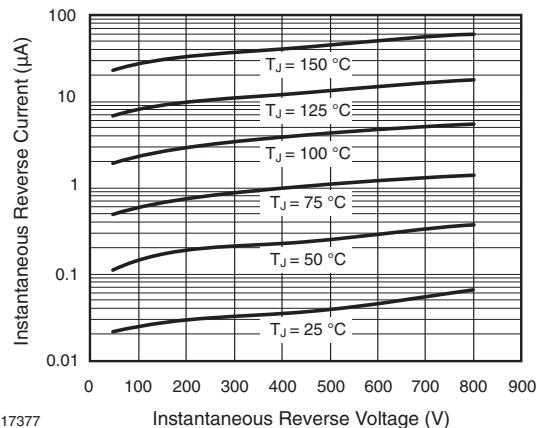
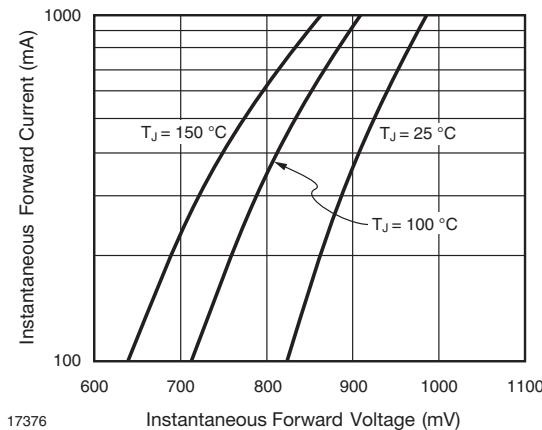
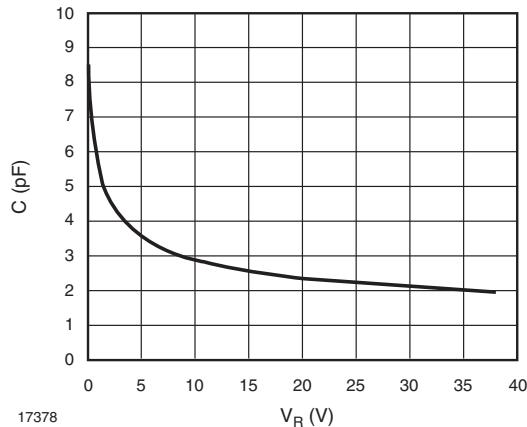
⁽¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ($\geq 40 \text{ }\mu\text{m}$ thick)

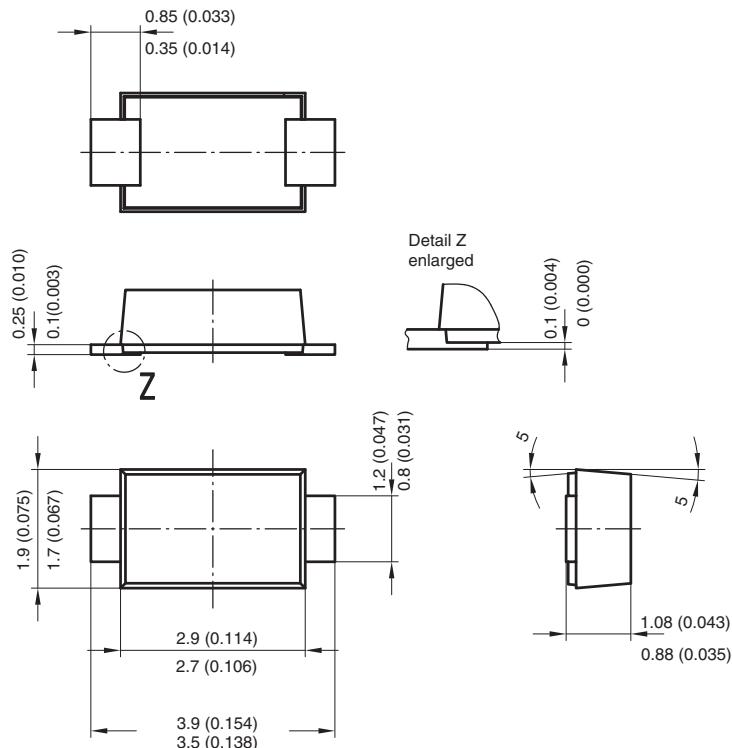
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
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	$T_A = 25 \text{ }^{\circ}\text{C}$	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	
	$T_A = 125 \text{ }^{\circ}\text{C}$	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	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, I_{rr} = 0.25 \text{ A}$	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

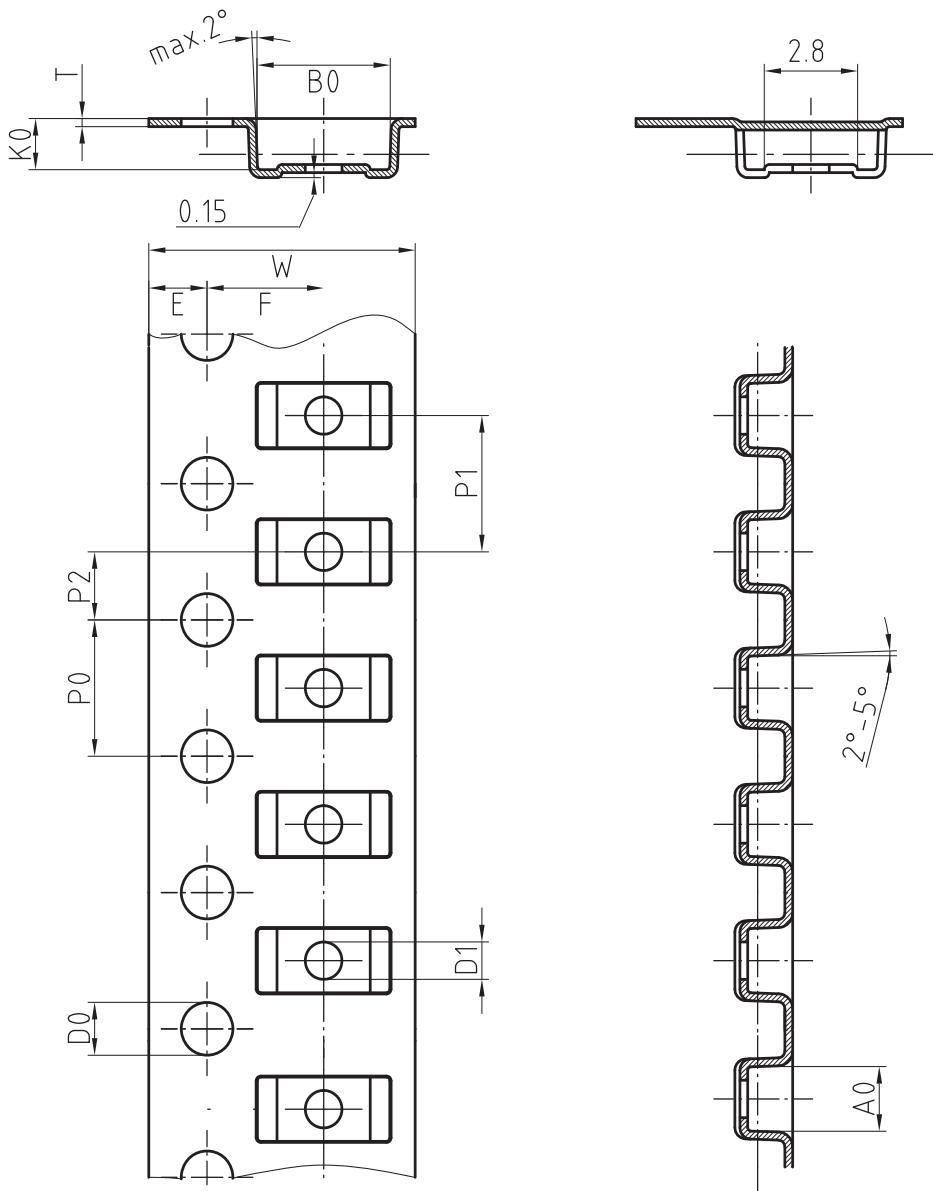
⁽¹⁾ Pulse test: 300 μs pulse width, 1 % duty cycle

TYPICAL CHARACTERISTICS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, 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:

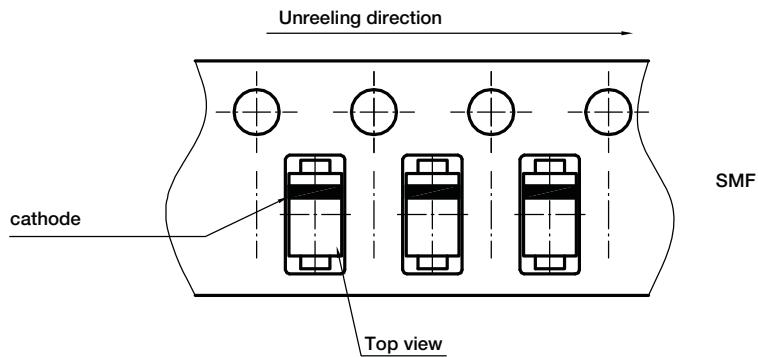
Created - Date: 15. February 2005
 Rev. 3 - Date: 13. March 2007
 Document no.: S8-V-3915.01-001 (4)
 17247

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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