S1FLB, S1FLD, S1FLG, S1FLJ, S1FLM

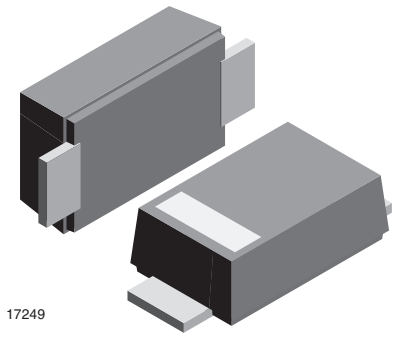
Vishay Semiconductors

Small Signal Switching Diode, High Voltage

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
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS COMPLIANT



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Mechanical Data

Case: JEDEC DO219AB (SMF®) plastic case
Polarity: band denotes cathode end
Weight: approx. 15 mg
Packaging codes/options:
GS18/10K per 13" reel (8 mm tape), 50K/box
GS08/3K per 7" reel (8 mm tape), 30K/box

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
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
		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
		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
		S1FLM	V_{DC}	1000	V

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum average forward rectified current	T_{tp} = 75 °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}	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	Symbol	Min.	Typ.	Max.	Unit
Maximum instantaneous forward voltage	1 A [1]	V_F			1.1	V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C	I_R			10	µA
	T_A = 125 °C	I_R			50	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	t_{rr}			1.8	µs
Typical capacitance at 4 V, MHz		C_j		4		pF

Note:
[1] Pulse test: 300 µ pulse width, 1 % duty cycle

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

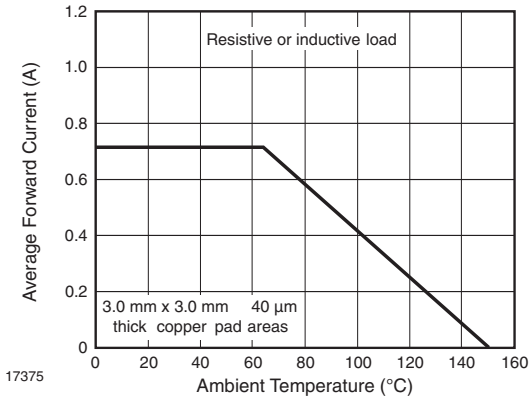


Figure 1. Forward Current Derating Curve

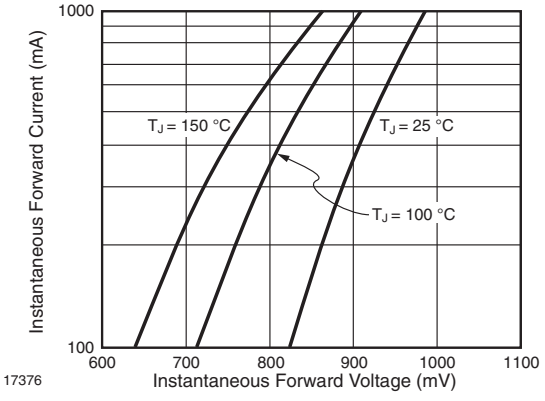


Figure 2. Typical Instantaneous Forward Characteristics

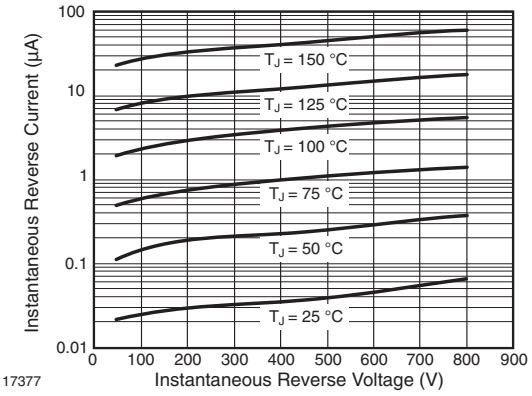


Figure 3. Typical Instantaneous Reverse Characteristics

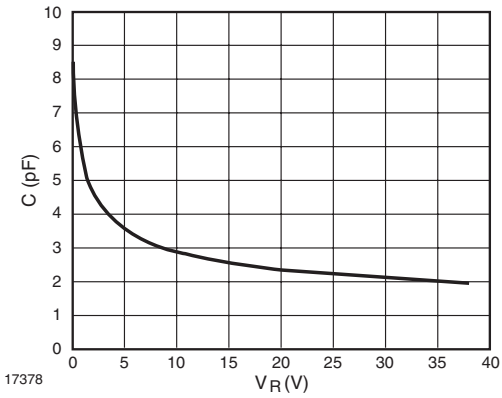
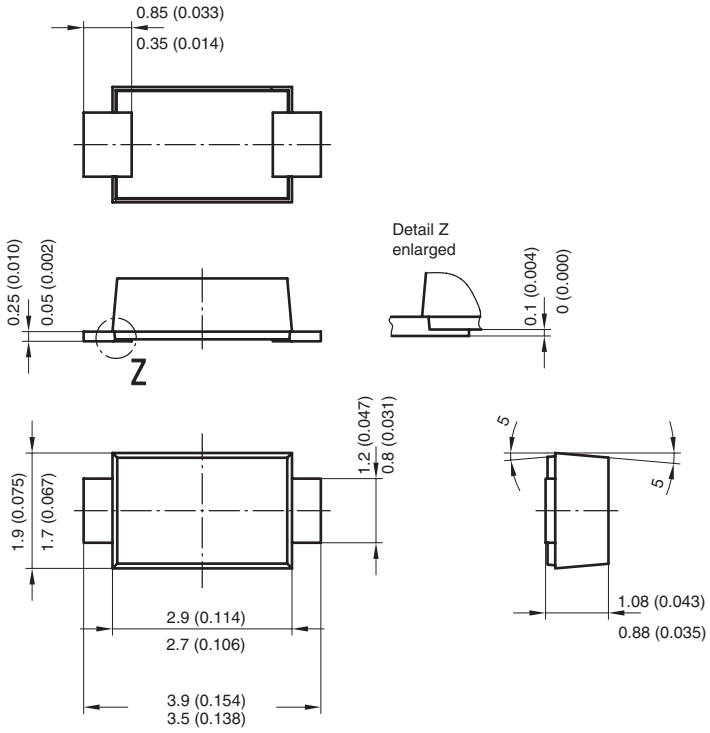
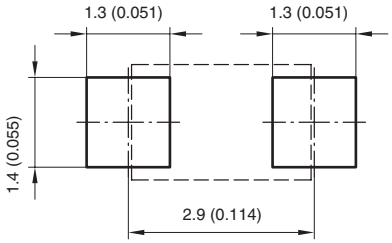


Figure 4. Capacitance vs. Reverse Voltage

Package Dimensions in millimeters (inches): DO219AB



Foot print recommendation:



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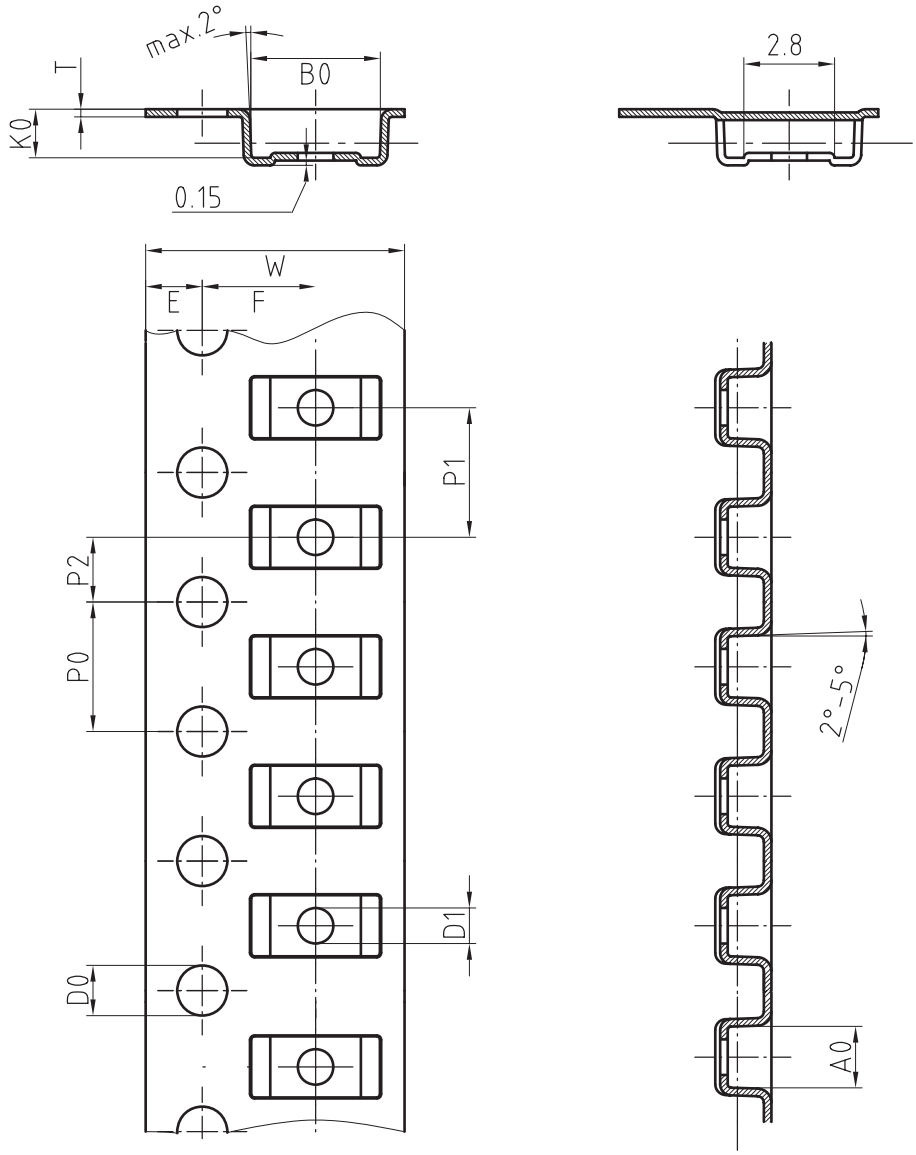
Blistertape Dimensions for SMF in millimeters



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

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