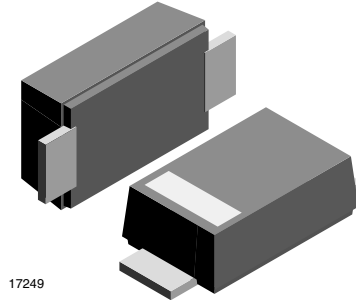


Small Signal Switching Diode, High Voltage

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
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



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)

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

Parts Table

Part	Ordering code	Marking	Remarks
S07B	S07B-GS18 or S07B-GS08	SB	Tape and reel
S07D	S07D-GS18 or S07D-GS08	SD	Tape and reel
S07G	S07G-GS18 or S07G-GS08	SG	Tape and reel
S07J	S07J-GS18 or S07J-GS08	SJ	Tape and reel
S07M	S07M-GS18 or S07M-GS08	SM	Tape and reel

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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
		S07M	V_{DC}	1000	V
Maximum average forward rectified current	$T_{tp} = 75\text{ }^{\circ}\text{C}^{1)}$		$I_{F(AV)}$	1.5	A
	$T_A = 65\text{ }^{\circ}\text{C}^{1)}$		$I_{F(AV)}$	0.7	A
Peak forward surge current 8.3 ms single half sine-wave	$T_L = 25\text{ }^{\circ}\text{C}$		I_{FSM}	25	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	$^{\circ}\text{C}$

Note:

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

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	$T_A = 25\text{ }^{\circ}\text{C}$	I_R			10	μA
	$T_A = 125\text{ }^{\circ}\text{C}$	I_R			50	μA
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$	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

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

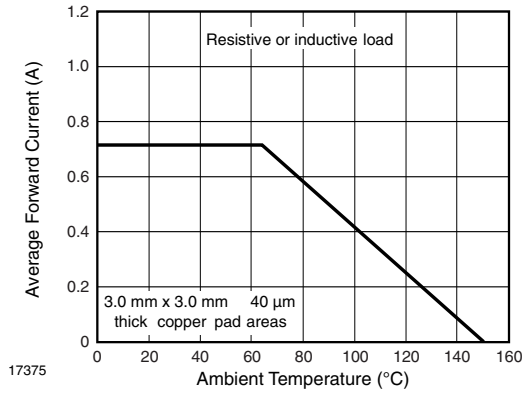


Figure 1. Forward Current Derating Curve

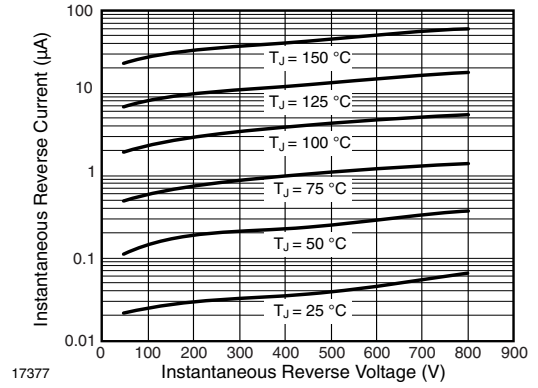


Figure 3. Typical Instantaneous Reverse Characteristics

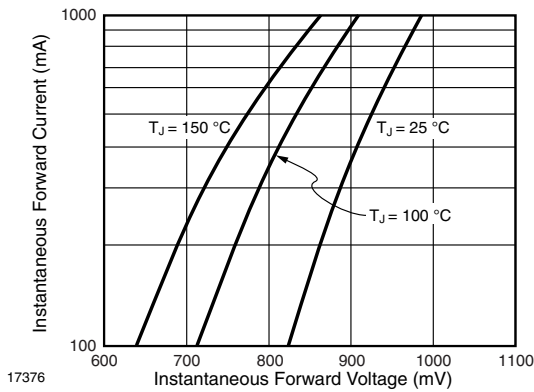


Figure 2. Typical Instantaneous Forward Characteristics

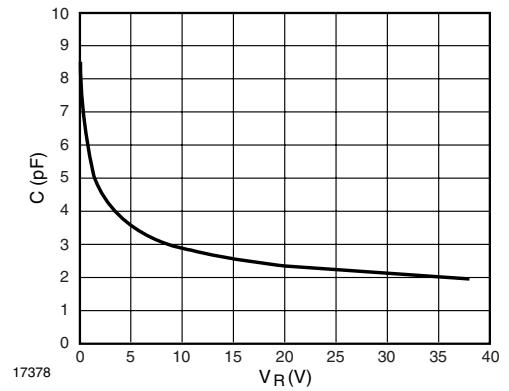


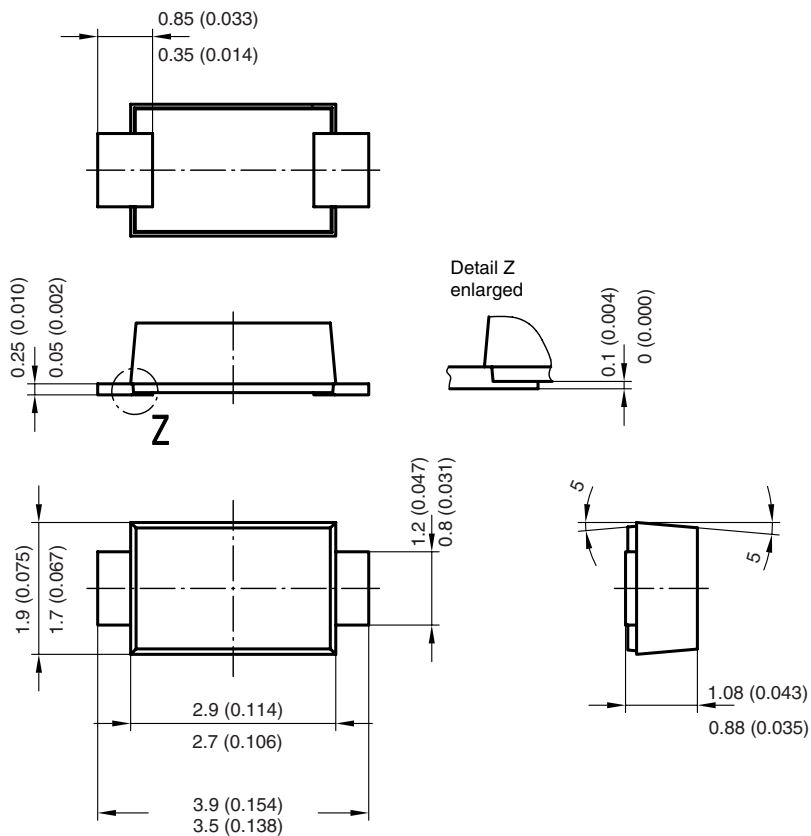
Figure 4. Capacitance vs. Reverse Voltage

S07B, S07D, S07G, S07J, S07M

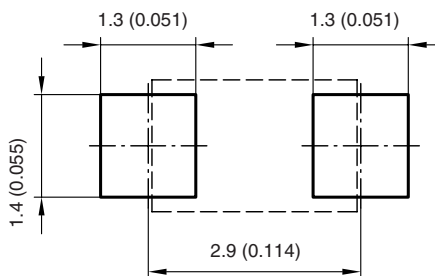


Vishay Semiconductors

Package Dimensions in millimeters (inches): DO219AB

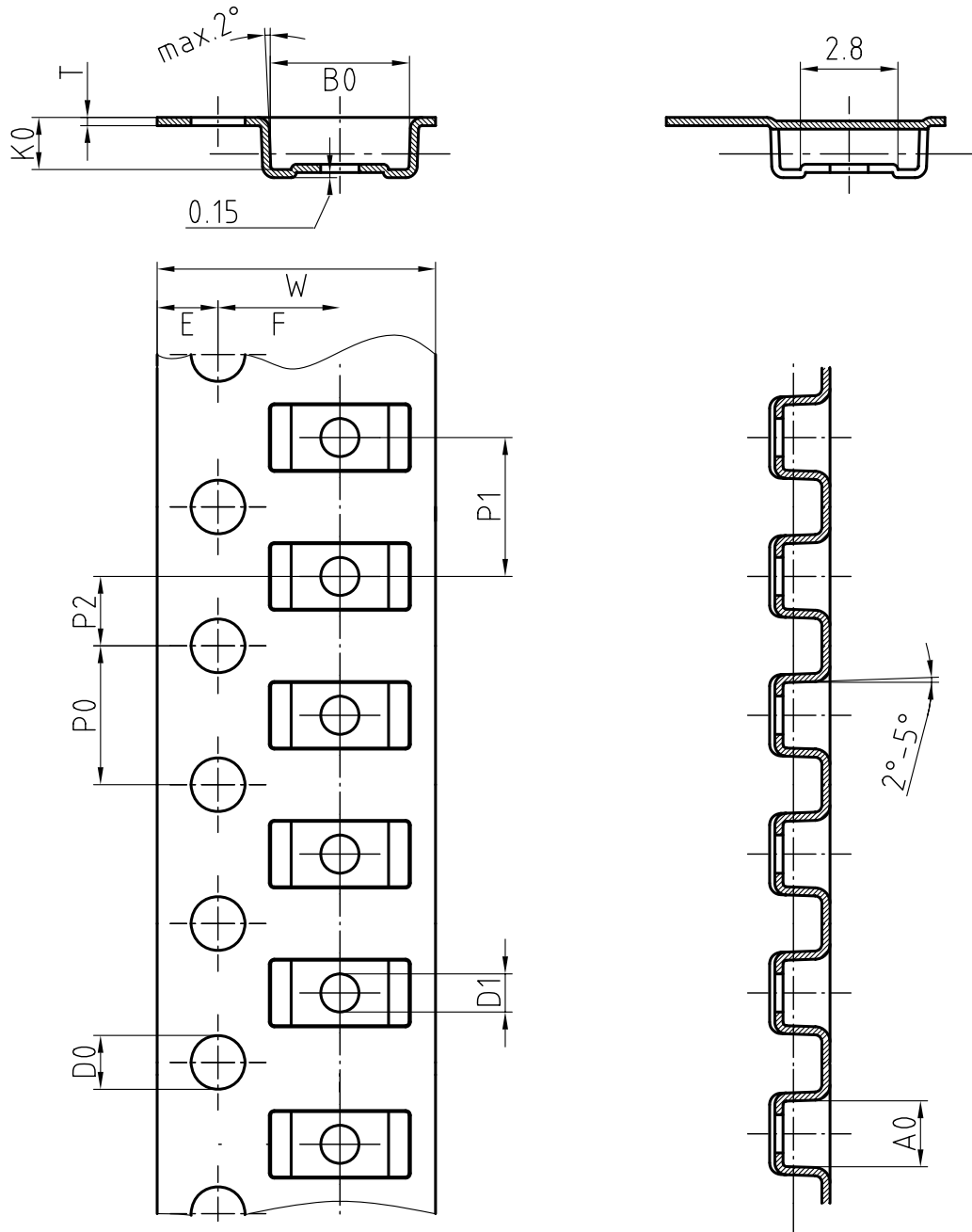


Foot print recommendation:



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

Blisertape 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

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

18513



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