



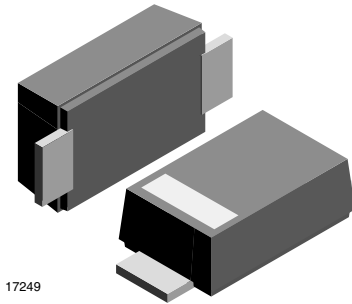
## Small Signal Switching Diode, High Voltage

### 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
- Halogen-free according to IEC 61249-2-21 definition



RoHS  
COMPLIANT  
HALOGEN  
FREE



17249

### Mechanical Data

**Case:** DO-219AB (SMF)

**Polarity:** band denotes cathode end

**Weight:** approx. 15 mg

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape)

08/3K per 7" reel (8 mm tape)

### Parts Table

Part	Ordering code	Marking	Remarks
S07B-M	S07B-M-18 or S07B-M-08	UB	Tape and reel
S07D-M	S07D-M-18 or S07D-M-08	UD	Tape and reel
S07G-M	S07G-M-18 or S07G-M-08	UG	Tape and reel
S07J-M	S07J-M-18 or S07J-M-08	UJ	Tape and reel
S07M-M	S07M-M-18 or S07M-M-08	UM	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-M	$V_{RRM}$	100	V
		S07D-M	$V_{RRM}$	200	V
		S07G-M	$V_{RRM}$	400	V
		S07J-M	$V_{RRM}$	600	V
		S07M-M	$V_{RRM}$	1000	V
Maximum RMS voltage		S07B-M	$V_{RMS}$	70	V
		S07D-M	$V_{RMS}$	140	V
		S07G-M	$V_{RMS}$	280	V
		S07J-M	$V_{RMS}$	420	V
		S07M-M	$V_{RMS}$	700	V
Maximum DC blocking voltage		S07B-M	$V_{DC}$	100	V
		S07D-M	$V_{DC}$	200	V
		S07G-M	$V_{DC}$	400	V
		S07J-M	$V_{DC}$	600	V
		S07M-M	$V_{DC}$	1000	V
Maximum average forward rectified current	$T_{tp} = 75\text{ }^{\circ}\text{C}$ <sup>1)</sup>		$I_{F(AV)}$	1.5	A
	$T_A = 65\text{ }^{\circ}\text{C}$ <sup>1)</sup>		$I_{F(AV)}$	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:

<sup>1)</sup> 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 <sup>1)</sup>		$R_{thJA}$	180	K/W
Operating junction and storage temperature range		$T_J, T_{STG}$	- 55 to + 150	$^{\circ}\text{C}$

Note:

<sup>1)</sup> Mounted on epoxy substrate with 3 mm x 3 mm CU pads ( $\geq 40$  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 <sup>1)</sup>	$V_F$			1.1	V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$	$I_R$			10	$\mu\text{A}$
	$T_A = 125\text{ }^{\circ}\text{C}$	$I_R$			50	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$	$t_{rr}$			1.8	$\mu\text{s}$
Typical capacitance at 4 V, MHz		$C_j$		4		pF

Note:

<sup>1)</sup> Pulse test: 300  $\mu$  pulse width, 1 % duty cycle



## Typical Characteristics

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

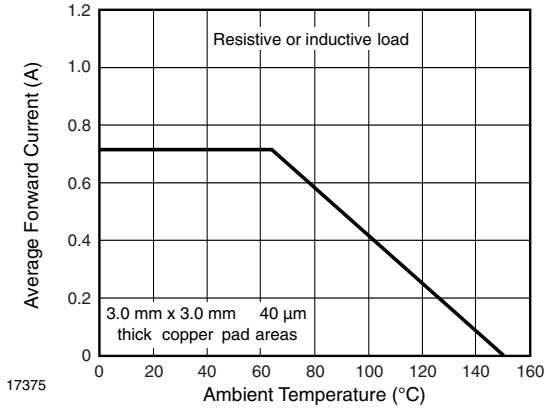


Figure 1. Forward Current Derating Curve

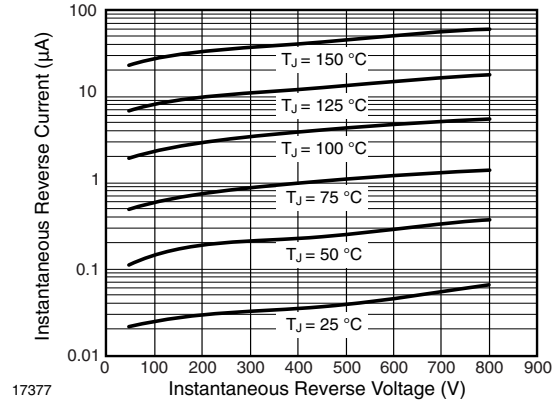


Figure 3. Typical Instantaneous Reverse Characteristics

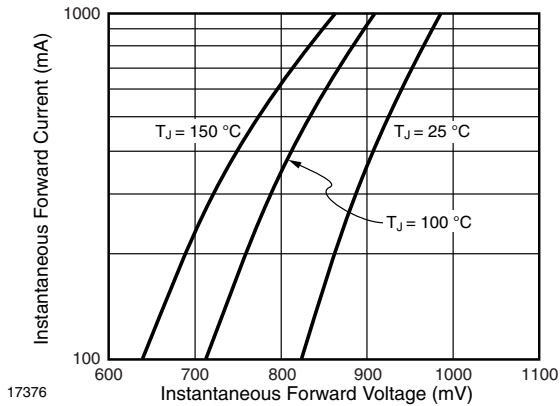


Figure 2. Typical Instantaneous Forward Characteristics

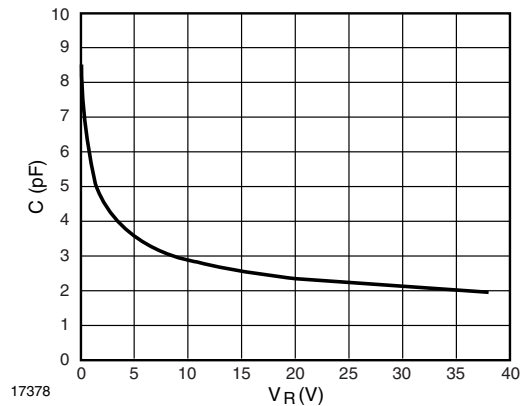


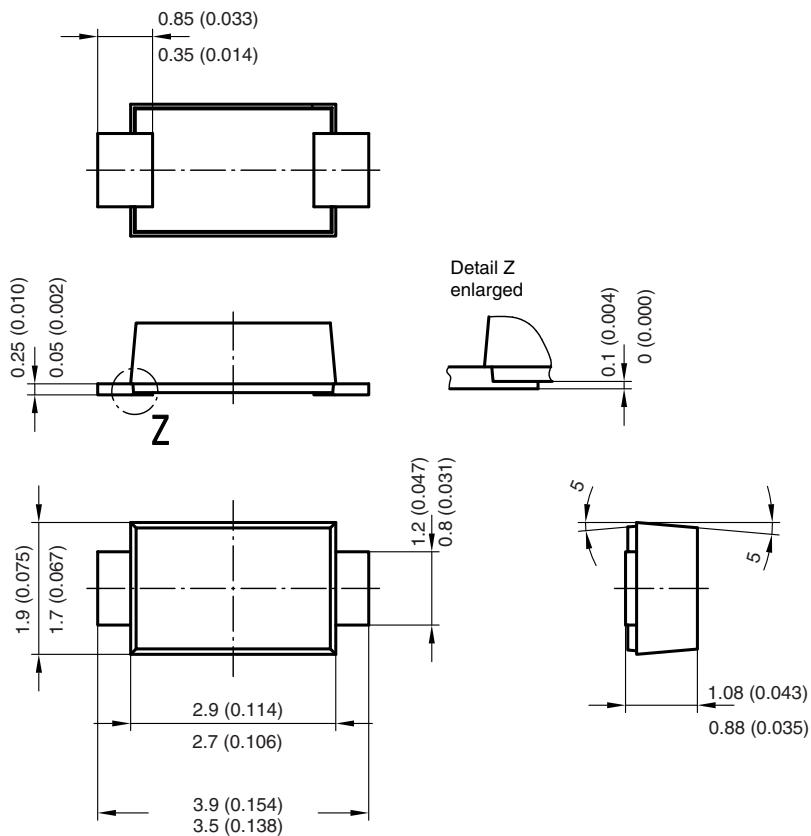
Figure 4. Capacitance vs. Reverse Voltage

# S07B-M, S07D-M, S07G-M, S07J-M, S07M-M

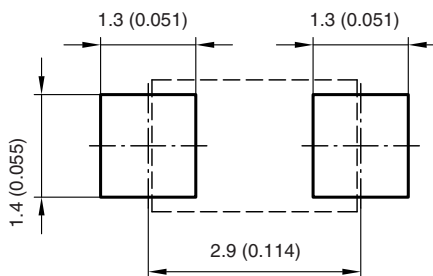


Vishay Semiconductors

Package Dimensions in millimeters (inches): DO-219AB (SMF)



Foot print recommendation:



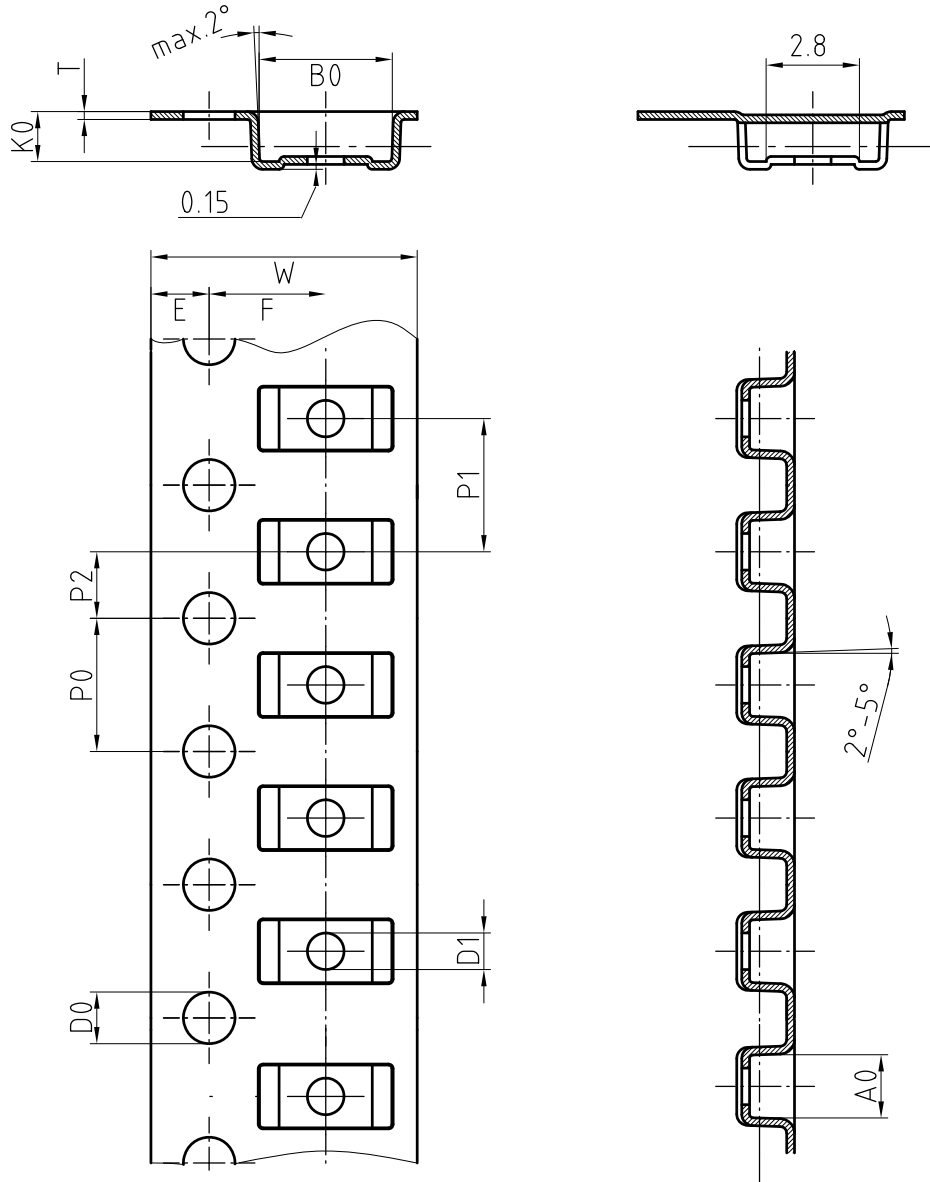
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17247



# S07B-M, S07D-M, S07G-M, S07J-M, S07M-M

Vishay Semiconductors

## Blister Tape 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)

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