

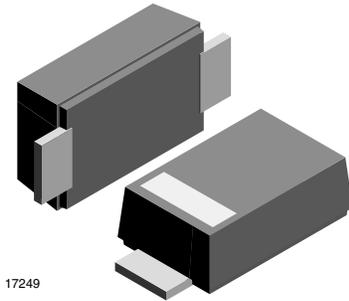
Small Surface Mount Ultrafast Diodes

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
ES07B-M	ES07B-M-18 or ES07B-M-08	GB	Tape and reel
ES07D-M	ES07D-M-18 or ES07D-M-08	GD	Tape and reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum repetitive peak reverse voltage		ES07B-M	V_{RRM}	100	V
		ES07D-M	V_{RRM}	200	V
Maximum RMS voltage		ES07B-M	V_{RMS}	70	V
		ES07D-M	V_{RMS}	140	V
Maximum DC blocking voltage		ES07B-M	V_{DC}	100	V
		ES07D-M	V_{DC}	200	V
Maximum average forward rectified current	$T_{tp} = 105\text{ °C}$		$I_{F(AV)}$	1.2	A
	$T_A = 65\text{ °C}^{1)}$		$I_{F(AV)}$	0.5	A
Peak forward surge current 8.3 ms single half sine-wave	$T_L = 25\text{ °C}$		I_{FSM}	30	A

Note:

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

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 glass PCB with 3 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	Symbol	Min.	Typ.	Max.	Unit
Maximum instantaneous forward voltage	1 A ¹⁾	V_F			0.98	V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$	I_R			10	μA
	$T_A = 100\text{ }^{\circ}\text{C}$	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}			25	ns
Typical capacitance	4 V, 1 MHz	C_j		4		pF

Note:

1) Pulse test, 300 μs pulse with 1 % duty cycle

Typical Characteristics

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

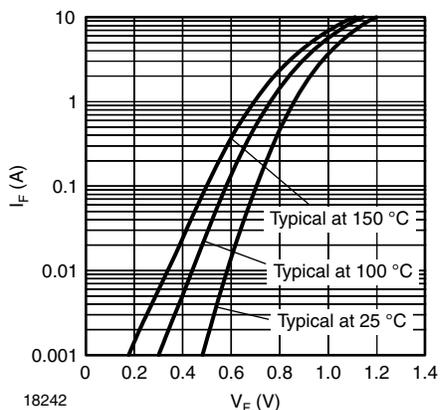


Figure 1. Typical Forward Characteristics

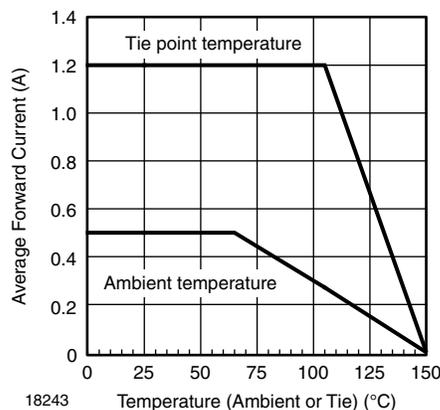


Figure 2. Forward Current Derating Curve

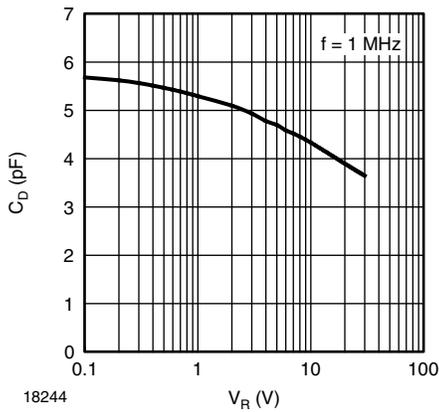


Figure 3. Typ. Diode Capacitance vs. Reverse Voltage

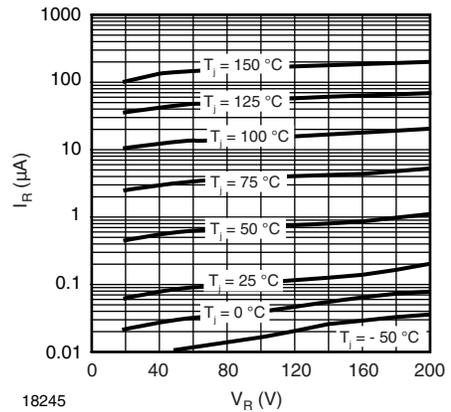
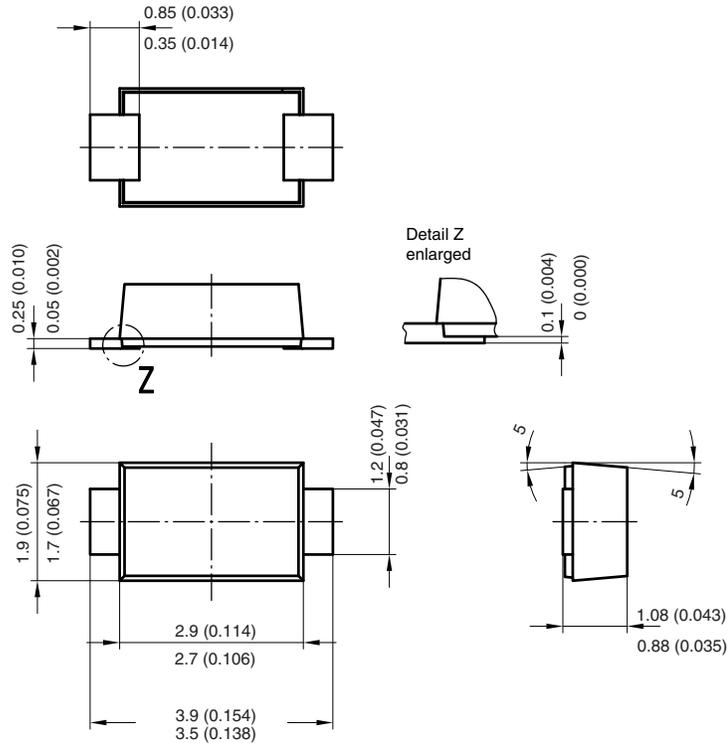
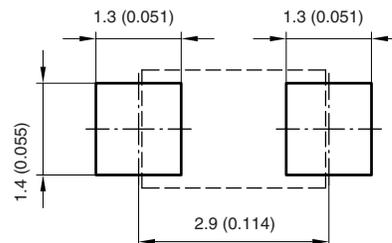


Figure 4. Typical Reverse Characteristics

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



Foot print recommendation:



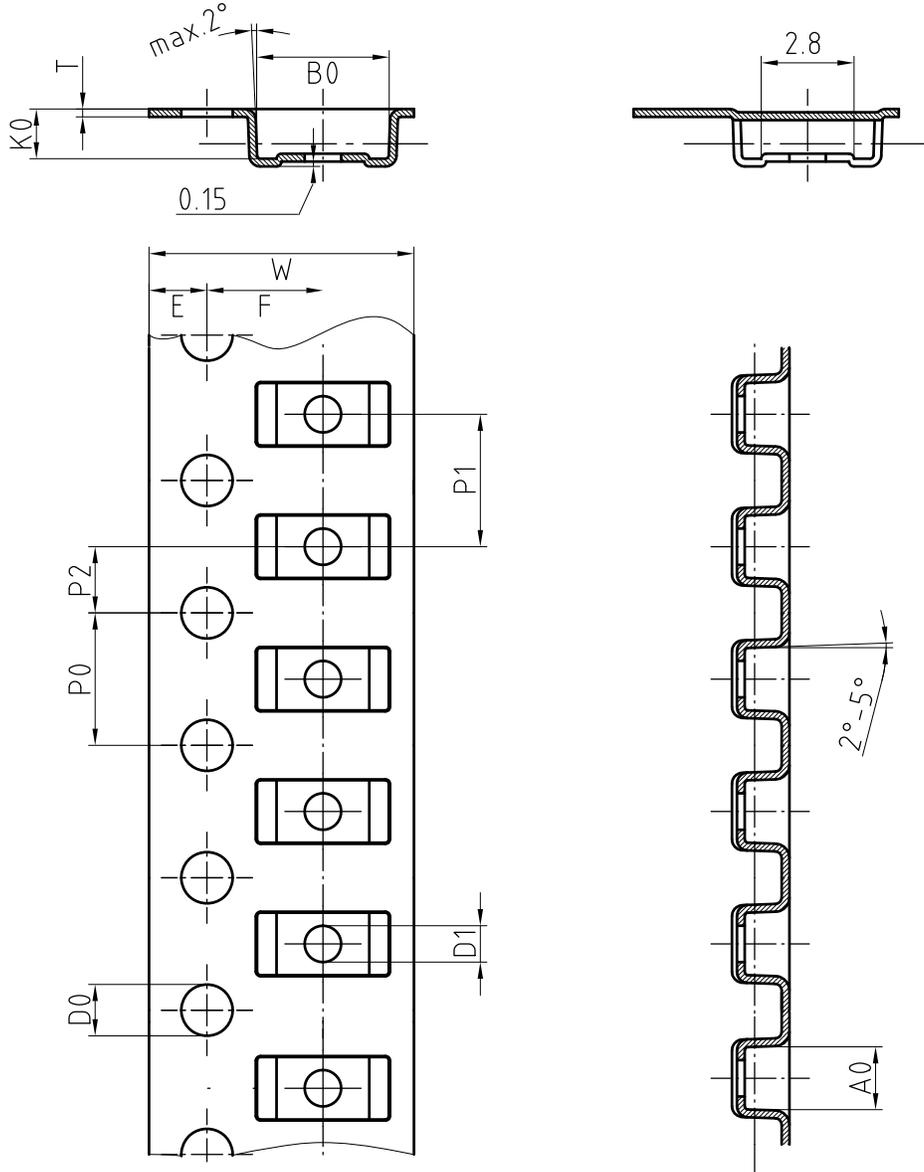
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 17247

ES07B-M, ES07D-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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