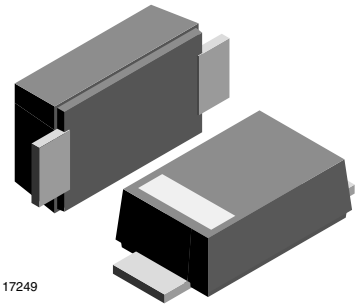
Small Signal Schottky Diodes

Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- 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



Mechanical Data

Case: DO-219AB (SMF)
Polarity: color band denotes cathode end
Weight: approx. 15 mg
Packaging codes/options:
18/10 k per 13" reel (8 mm tape), 50 k/box
08/3 k per 7" reel (8 mm tape), 30 k/box

Parts Table

Part	Ordering code	Marking	Remarks
SL02-M	SL02-M-18 or SL02-M-08	U2	Tape and reel
SL03-M	SL03-M-18 or SL03-M-08	U3	Tape and reel
SL04-M	SL04-M-18 or SL04-M-08	U4	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		SL02-M	V_{RRM}	20	V
		SL03-M	V_{RRM}	30	V
		SL04-M	V_{RRM}	40	V
Maximum RMS voltage		SL02-M	V_{RMS}	14	V
		SL03-M	V_{RMS}	21	V
		SL04-M	V_{RMS}	28	V

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum DC blocking voltage		SL02-M	V_{DC}	20	V
		SL03-M	V_{DC}	30	V
		SL04-M	V_{DC}	40	V
Maximum average forward rectified current	T_{tp} = 109 °C		$I_{F(AV)}$	1.1	A
Peak forward surge current 8.3 ms single half sine-wave			I_{FSM}	40	A

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
Maximum operating junction temperature		T_j	125	°C
Storage temperature range		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	Part	Symbol	Min	Typ.	Max	Unit
Instaneous forward voltage	I_F = 0.5 A [1)]	SL02-M	V_F		0.360	0.385	V
		SL03-M	V_F		0.395	0.43	V
		SL04-M	V_F		0.450	0.51	V
Typical instantaneous forward voltage	I_F = 1.1 A	SL02-M	V_F		0.420		V
		SL03-M	V_F		0.450		V
		SL04-M	V_F		0.530		V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C	SL02-M	I_R			250	µA
	T_A = 100 °C	SL02-M	I_R			8	mA
	T_A = 25 °C	SL03-M	I_R			130	µA
	T_A = 100 °C	SL03-M	I_R			6	mA
	T_A = 25 °C	SL04-M	I_R			20	µA
	T_A = 100 °C	SL04-M	I_R			6	mA

Note:

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

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

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Typical Characteristics

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

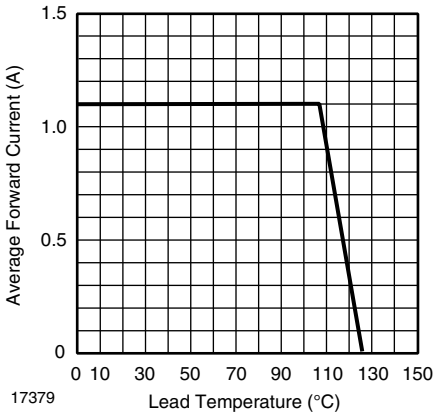


Figure 1. Forward Current Derating Curve

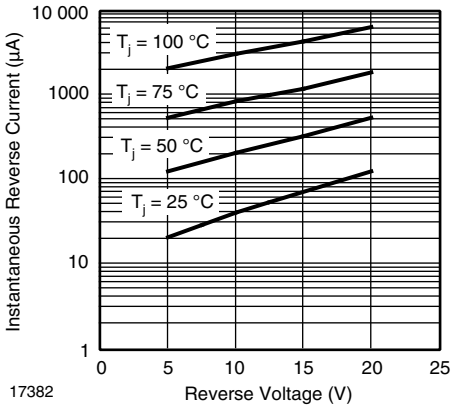


Figure 4. Typical Reverse Current Characteristics - SL02

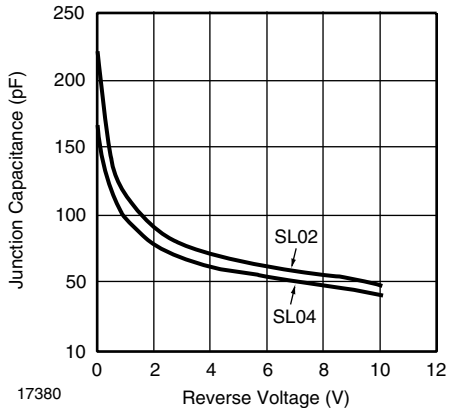


Figure 2. Typical Junction Capacitance

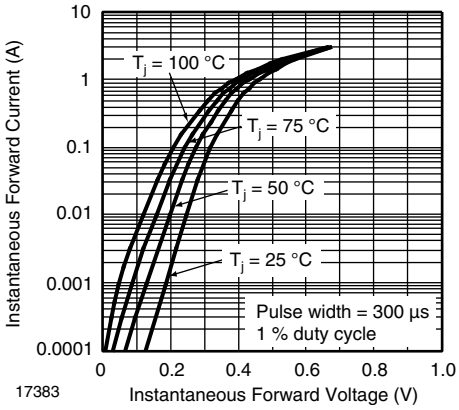


Figure 5. Typical Instantaneous Forward Characteristics - SL03

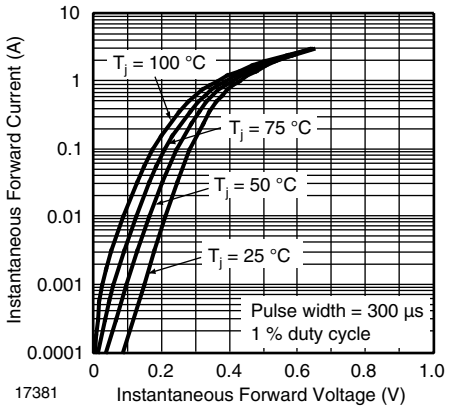


Figure 3. Typical Instantaneous Forward Characterisics - SL02

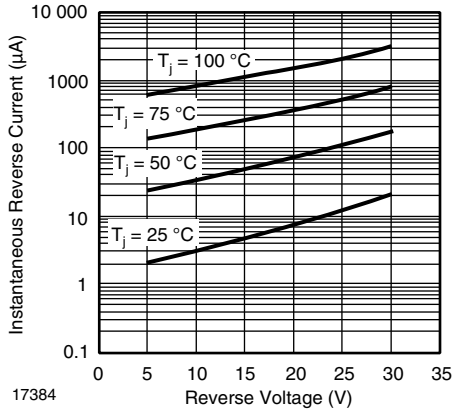
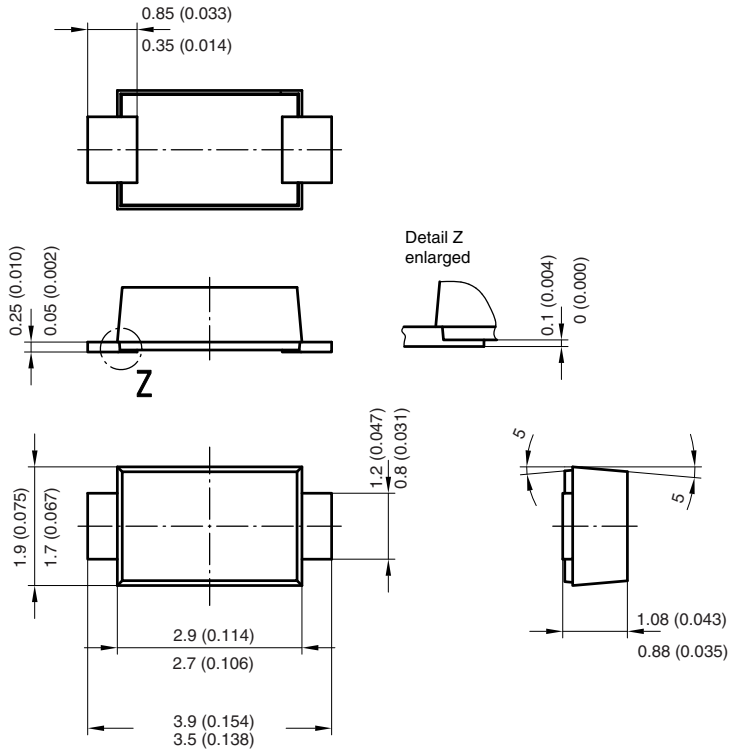
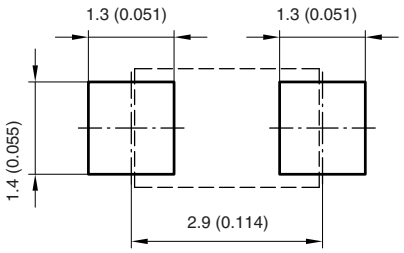


Figure 6. Typical Reverse Current Characteristics - SL03

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



Foot print recommendation:



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For technical questions within your region, please contact one of the following:
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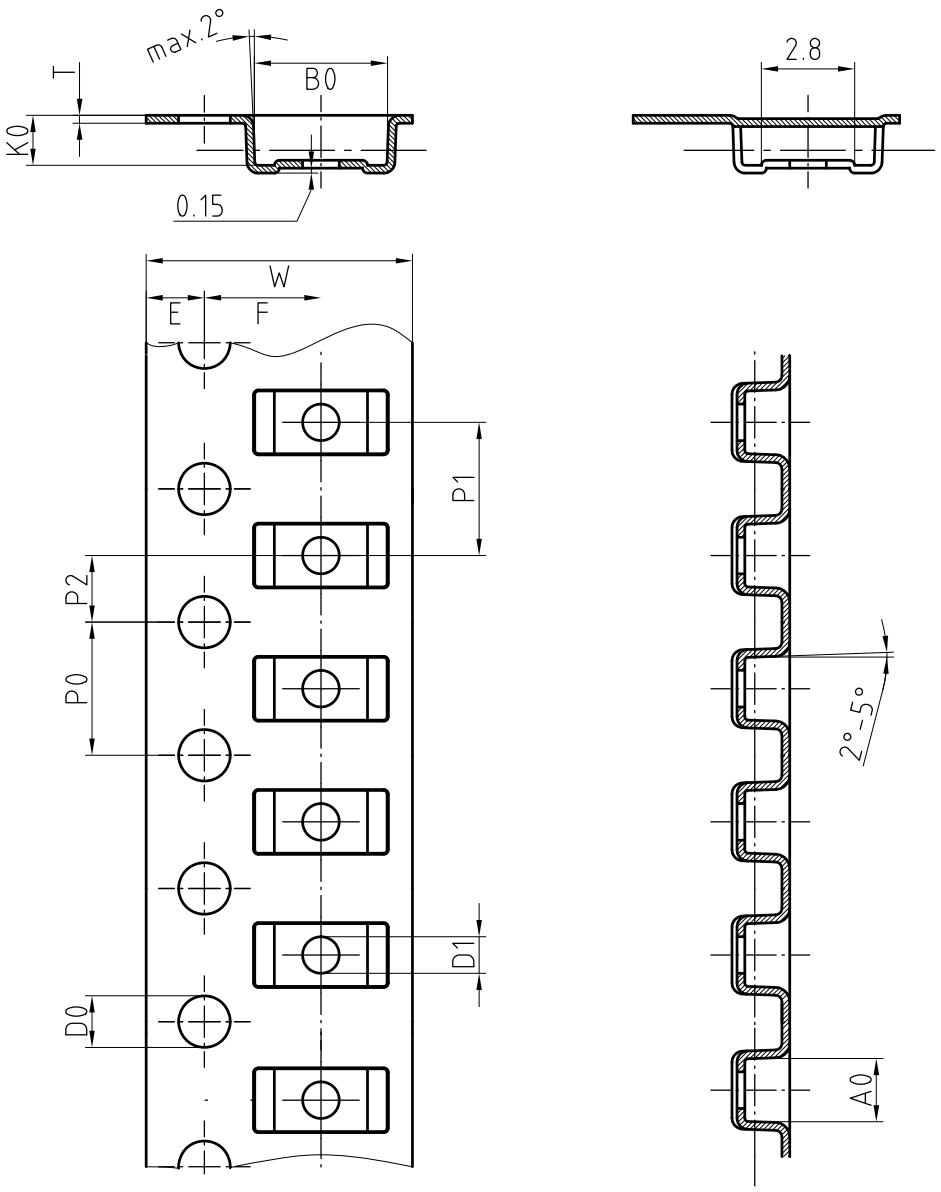
Blistertape Dimensions for SMF in millimeters



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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