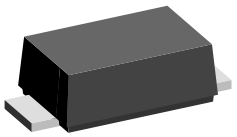
Small Signal Schottky Diodes

Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- High temperature soldering:
  260 °C/10 seconds at terminals
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



17249

Mechanical Data

Case: JEDEC DO-219AB (SMF) Plastic case
Polarity: Color band denotes cathode end
Weight: approx. 15 mg
Packaging codes-options:
G18 / 10 k per 13" reel (8 mm tape), 50 k/box
G08 / 3 k per 7" reel (8 mm tape), 30 k/box

Parts Table

Part	Ordering code	Marking	Remarks
SL02	SL02-GS18 or SL02-GS08	S2	Tape and Reel
SL03	SL03-GS18 or SL03-GS08	S3	Tape and Reel
SL04	SL04-GS18 or SL04-GS08	S4	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	V_{RRM}	20	V
		SL03	V_{RRM}	30	V
		SL04	V_{RRM}	40	V
Maximum RMS voltage		SL02	V_{RMS}	14	V
		SL03	V_{RMS}	21	V
		SL04	V_{RMS}	28	V

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum DC blocking voltage		SL02	V_{DC}	20	V
		SL03	V_{DC}	30	V
		SL04	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[2)]		R_{thJA}	180	K/W
Maximum operating junction temperature		T_J	125	°C
Storage temperature range		T_{STG}	- 55 to 150	°C

[2)]Mounted on epoxy substrate with 3 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 at 0.5[1)]		SL02	V_F		0.360	0.385	V
		SL03	V_F		0.395	0.43	V
		SL04	V_F		0.450	0.51	V
Typical instantaneous forward voltage	1.1 A	SL02	V_F		0.420		V
		SL03	V_F		0.450		V
		SL04	V_F		0.530		V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C	SL02	I_R			250	µA
	T_A = 100 °C	SL02	I_R			8.0	mA
	T_A = 25 °C	SL03	I_R			130	µA
	T_A = 100 °C	SL03	I_R			6.0	mA
	T_A = 25 °C	SL04	I_R			20	µA
	T_A = 100 °C	SL04	I_R			6.0	mA

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

Typical Characteristics (Tamb = 25 °C unless otherwise specified)

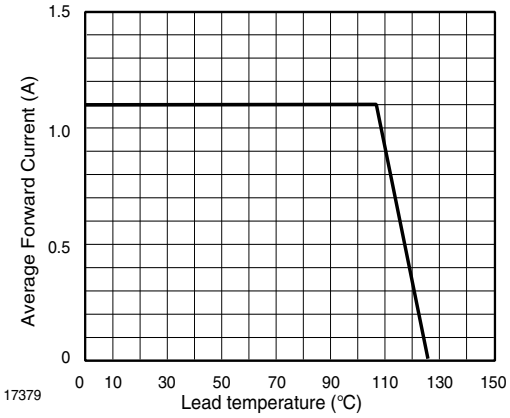


Figure 1. Forward Current Derating Curve

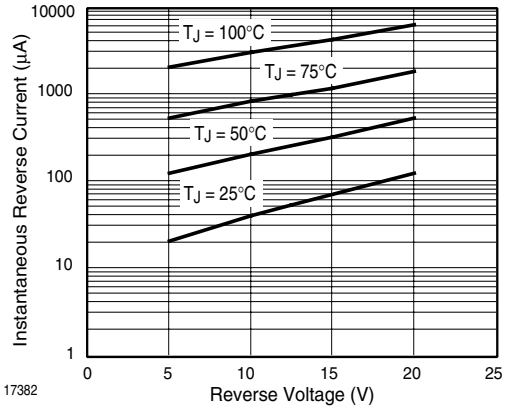


Figure 4. Typical Reverse Current Characteristics - SL02

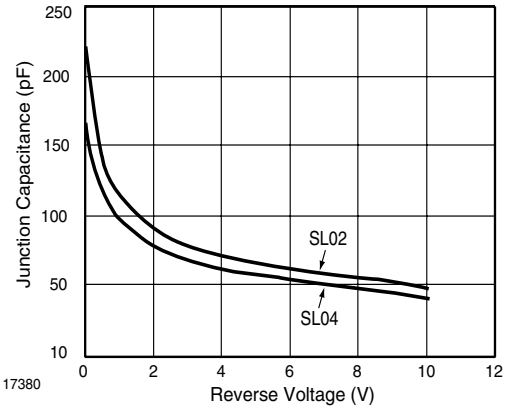


Figure 2. Typical Junction Capacitance

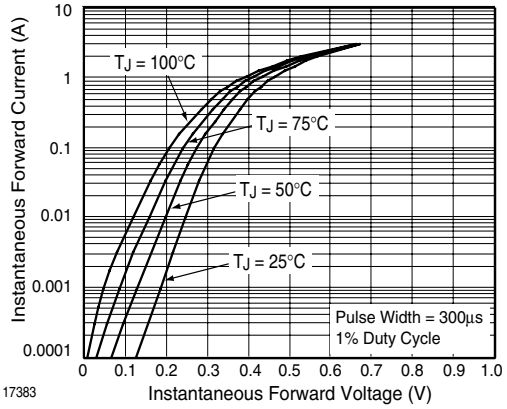


Figure 5. Typical Instantaneous Forward Characteristics - SL03

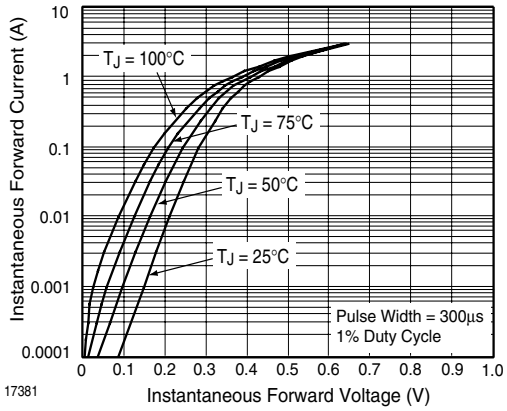


Figure 3. Typical Instantaneous Forward Characterisics - SL02

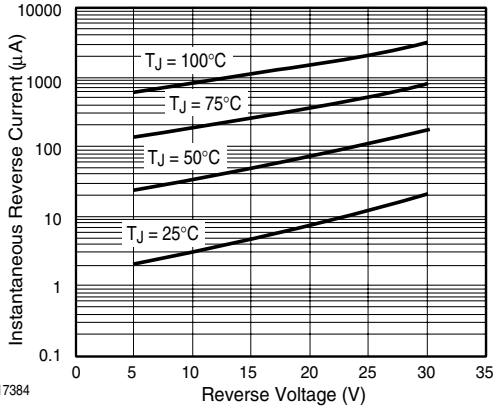
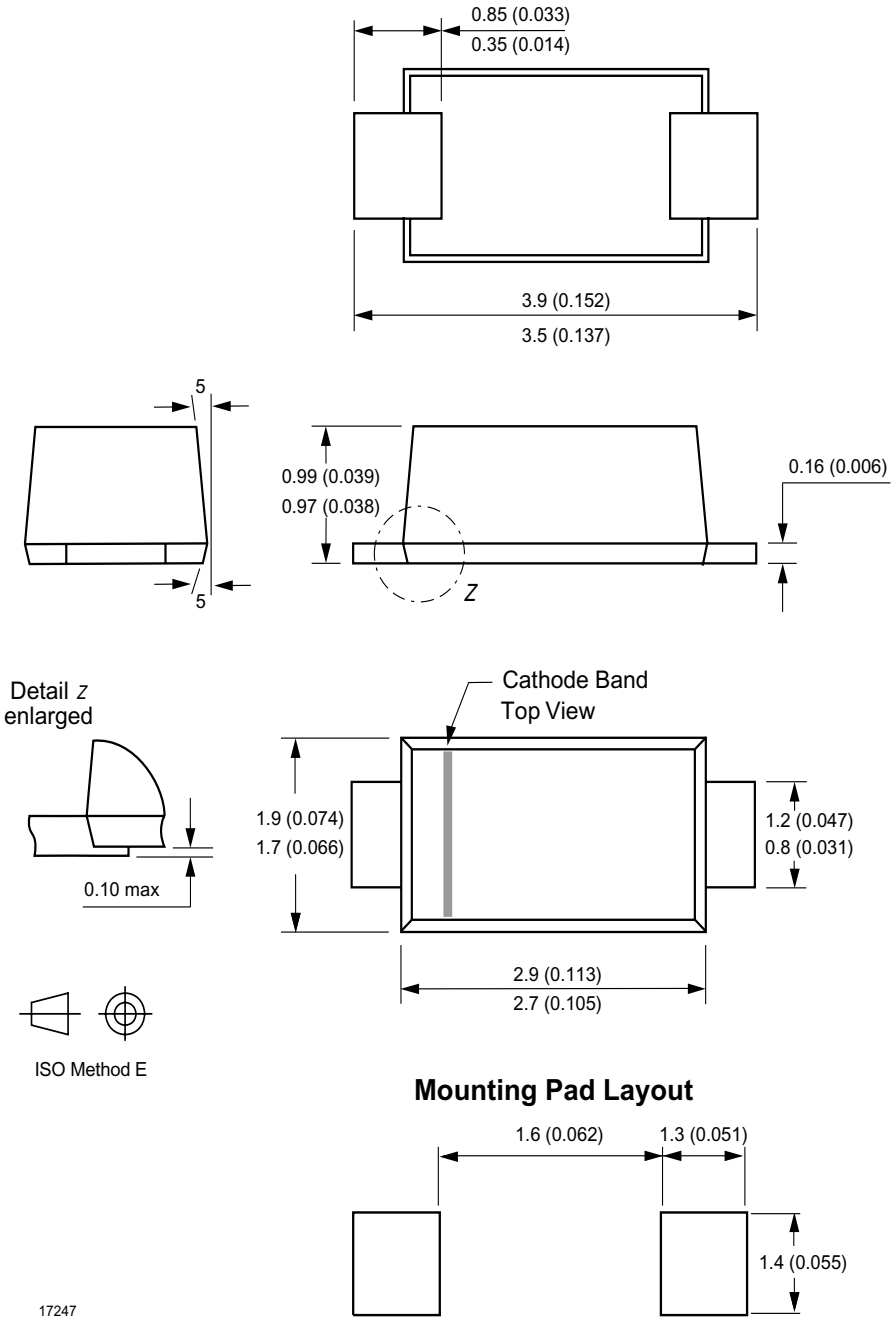


Figure 6. Typical Reverse Current Characteristics - SL03

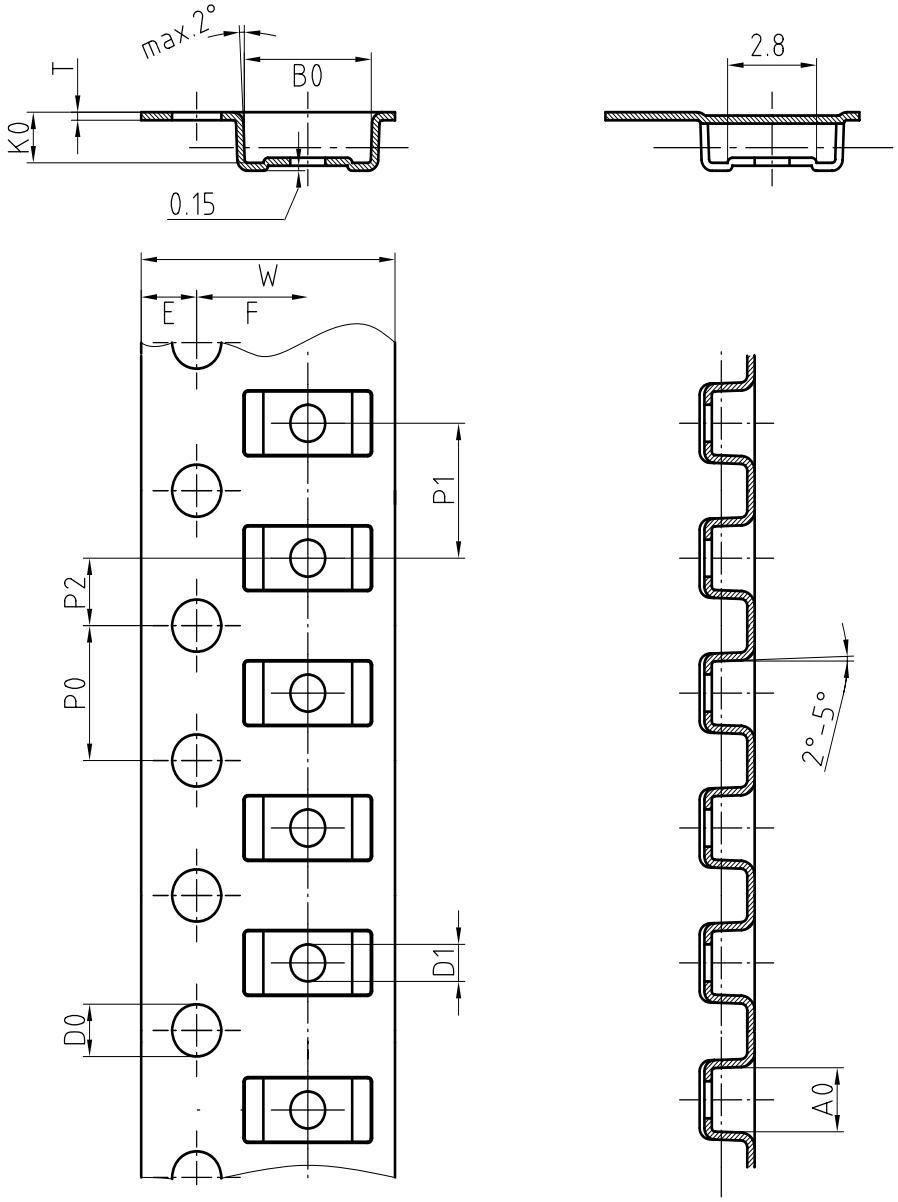
Package Dimensions in mm (Inches)



Mounting Pad Layout

17247

Blistertape for SMF



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

18513

Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany

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