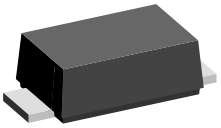
Small Signal Fast Switching Diode, High Voltage

Features

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- 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



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Mechanical Data

Case: JEDEC DO-219AB (SMF®) Plastic case
Polarity: Band denotes cathode end
Weight: approx. 15 mg

Packaging codes-options:
GS18 / 10 K per 13" reel (8 mm tape), 50 k/box
GS08 / 3 K per 7" reel (8 mm tape), 30 k/box

Parts Table

Part	Ordering code	Marking	Remarks
RS07B	RS07B-GS18 or RS07B-GS08	RB	Tape and Reel
RS07D	RS07D-GS18 or RS07D-GS08	RD	Tape and Reel
RS07G	RS07G-GS18 or RS07G-GS08	RG	Tape and Reel
RS07J	RS07J-GS18 or RS07J-GS08	RJ	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		RS07B	V_{RRM}	100	V
		RS07D	V_{RRM}	200	V
		RS07G	V_{RRM}	400	V
		RS07J	V_{RRM}	600	V
Maximum RMS voltage		RS07B	V_{RMS}	70	V
		RS07D	V_{RMS}	140	V
		RS07G	V_{RMS}	280	V
		RS07J	V_{RMS}	420	V
Maximum DC blocking voltage		RS07B	V_{DC}	100	V
		RS07D	V_{DC}	200	V
		RS07G	V_{DC}	400	V
		RS07J	V_{DC}	600	V
Maximum average forward rectified current	T_{tp} = 65 °C		$I_{F(AV)}$	1.4	A
	T_A = 45 °C		$I_{F(AV)}$	0.5	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
Operating junction and storage temperature range		T_J, T_{STG}	- 55 to + 150	°C

1) Mounted on epoxy glass PCB 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
Maximum instantaneous forward voltage	0.7 A[2)]		V_F			1.15	V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C		I_R			10	µA
	T_A = 125°C		I_R			50	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	RS07B	t_{rr}			150	ns
		RS07D	t_{rr}			150	ns
		RS07G	t_{rr}			150	ns
		RS07J	t_{rr}			250	ns
Typical capacitance	4 V, 1 MHz		C_j		9		pF

2) Pulse test, 300 µs pulse width 1 % duty cycle

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

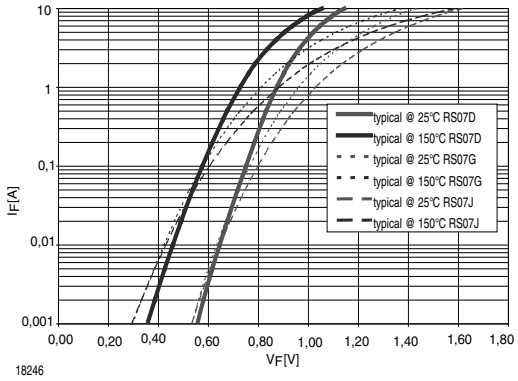


Figure 1. Typical Forward Characteristics

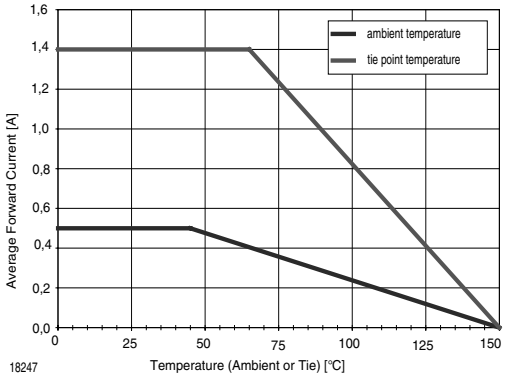


Figure 2. Forward Current Derating Curve

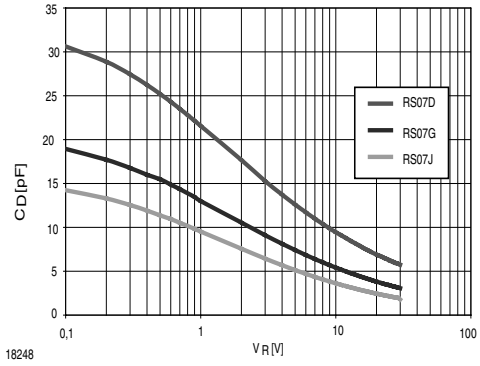


Figure 3. Typ. Diode Capacitance vs. Reverse Voltage

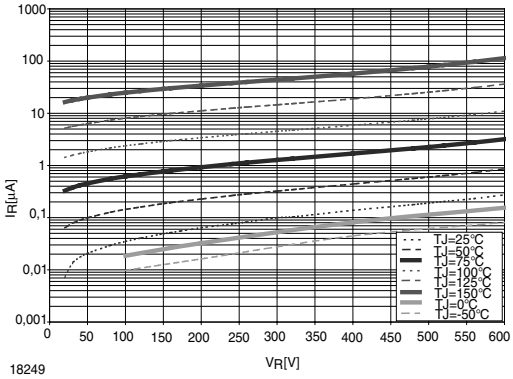
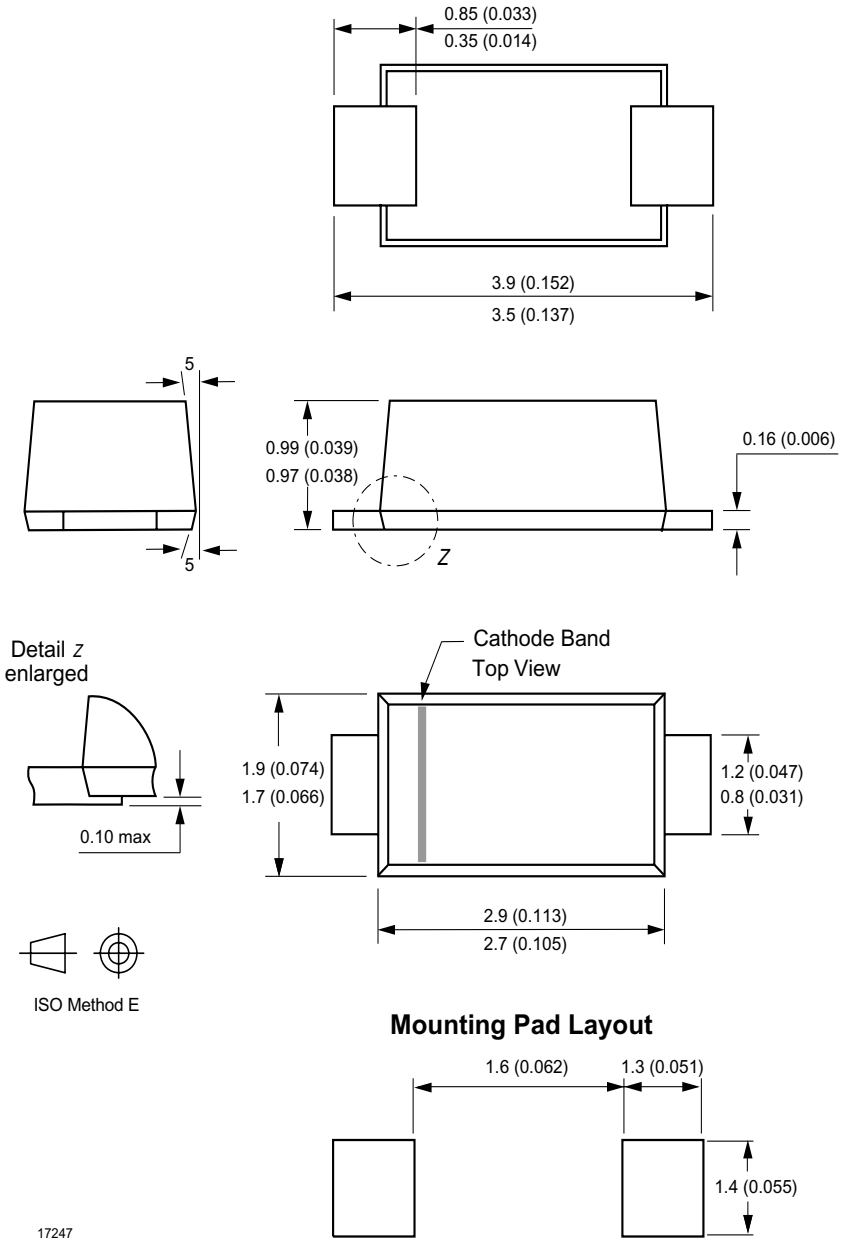


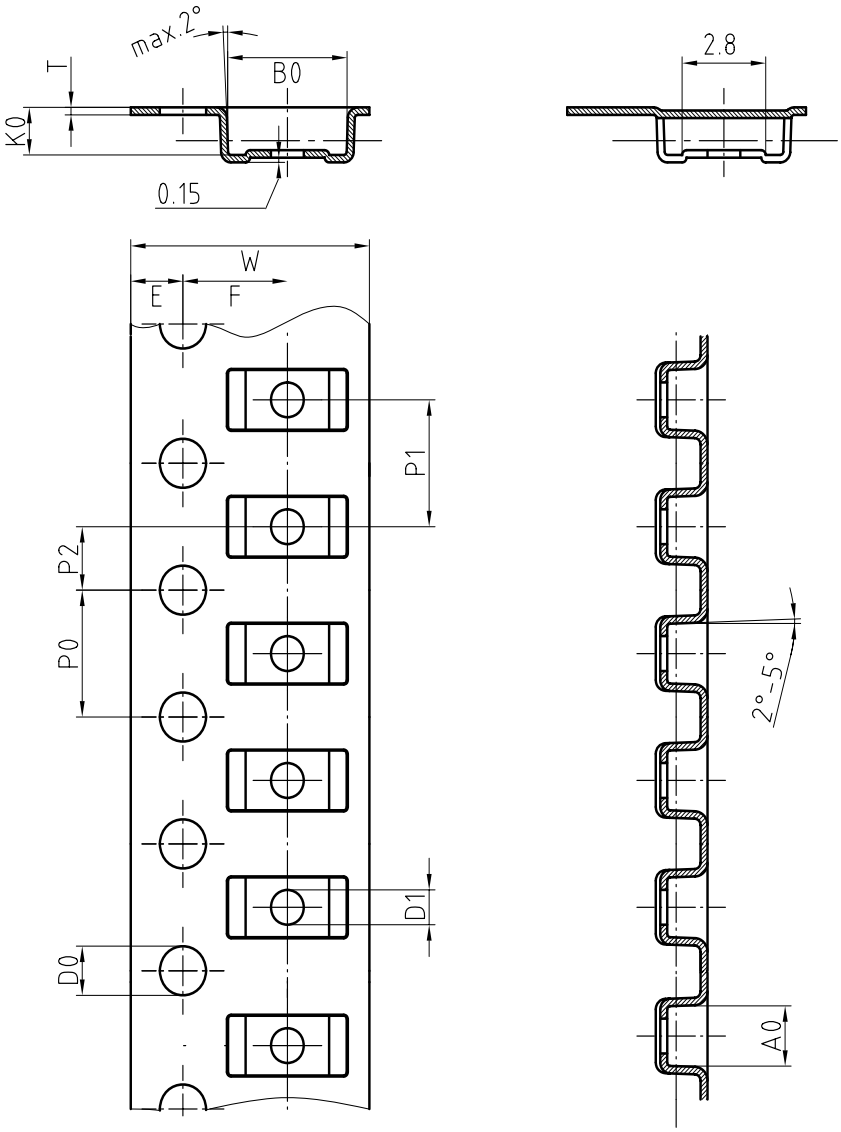
Figure 4. Typical Reverse Characteristics

Package Dimensions in mm (Inches)



Mounting Pad Layout

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

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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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