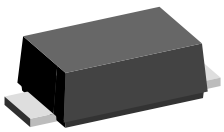
Small Surface Mount Diodes

Features

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- High temperature soldering:
  260 °C/ 10 seconds at terminals



17249

Mechanical Data

Case: JEDEC -DO219-AB (SMF) Plastic case
Polarity: Band denotes cathode end

Weight: approx. 0.01 g

Packaging codes-options:
G1-10 K per 13" reel (8 mm tape), 50 K/box
G2-3 K per 7" reel (8 mm tape), 30 K/box

Parts Table

Part	Type differentiation	Marking	Package
S07B	Single Diodes	SB	SMF
S07D	Single Diodes	SD	SMF
S07G	Single Diodes	SG	SMF
S07J	Single Diodes	SJ	SMF
S07M	Single Diodes	SM	SMF

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum repetitive peak reverse voltage		S07B	V_{RRM}	100	V
		S07D	V_{RRM}	200	V
		S07G	V_{RRM}	400	V
		S07J	V_{RRM}	600	V
		S07M	V_{RRM}	1000	V
Maximum RMS voltage		S07B	V_{RMS}	70	V
		S07D	V_{RMS}	140	V
		S07G	V_{RMS}	280	V
		S07J	V_{RMS}	420	V
		S07M	V_{RMS}	700	V
Maximum DC blocking voltage		S07B	V_{DC}	100	V
		S07D	V_{DC}	200	V
		S07G	V_{DC}	400	V
		S07J	V_{DC}	600	V
		S07M	V_{DC}	1000	V
Maximum average forward rectified current	T_{tp} = 75 °C[1)]		$I_{F(AV)}$	1.5	A
	T_A = 65 °C[2)]		$I_{F(AV)}$	0.7	A
Peak forward surge current 8.3 ms single half sine-wave	T_L = 25 °C		I_{FSM}	25	A

1) Averaged over any 20 ms period

2)Mounted on epoxy substrate with 3 x 3 mm CU pads (≥ 40 µm thick)

Maximum Thermal Resistance

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

Parameter		Symbol	Value	Unit
Thermal resistance junction to ambient air[2)]		$R_{\theta JA}$	180	K/W
Operating junction and storage temperature range		T_J, 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		Symbol		Typ.	Max	Unit
Maximum instantaneous forward voltage	1.0 A[3)]					1.1	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 = 1.0 A, I_{rr} = 0.25 A		t_{rr}			1.8	µs
Typical capacitance at 4 V, MHz			C_J		4		pF

3) Pulse test: 300 µ pulse width, 1 % duty cycle

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

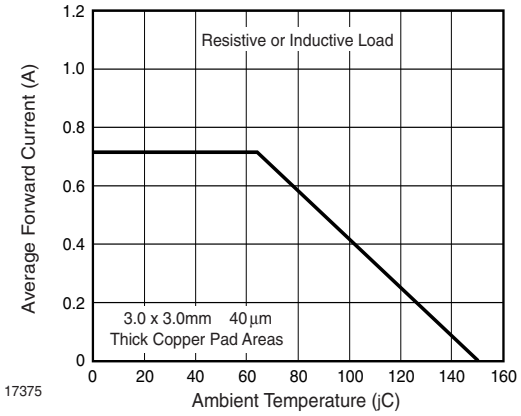


Figure 1. Forward Current Derating Curve

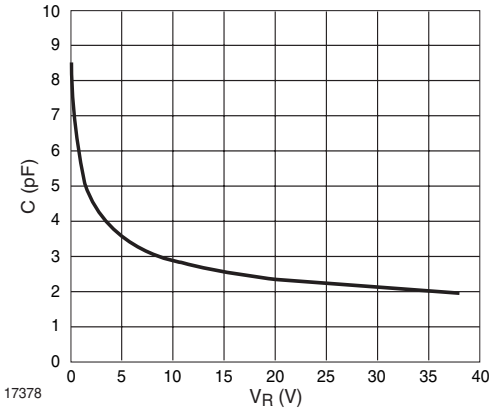


Figure 4. Capacitance vs. Reverse Voltage

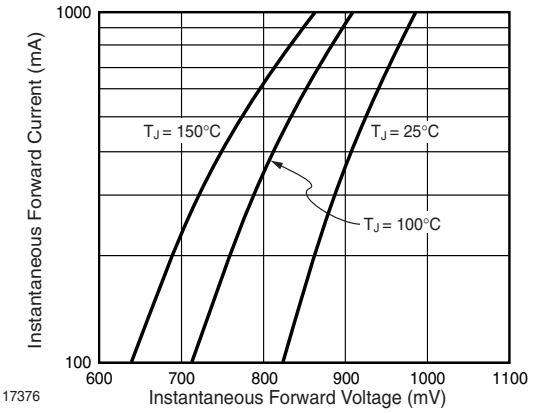


Figure 2. Typical Instantaneous Forward Characteristics

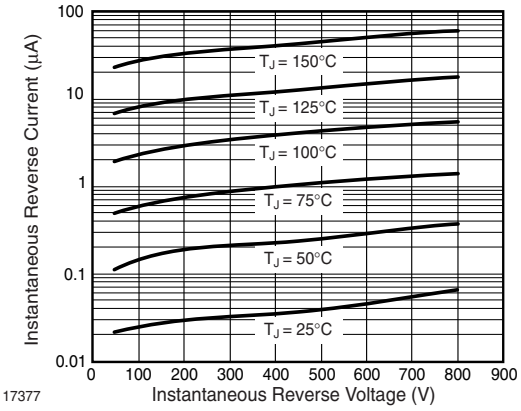
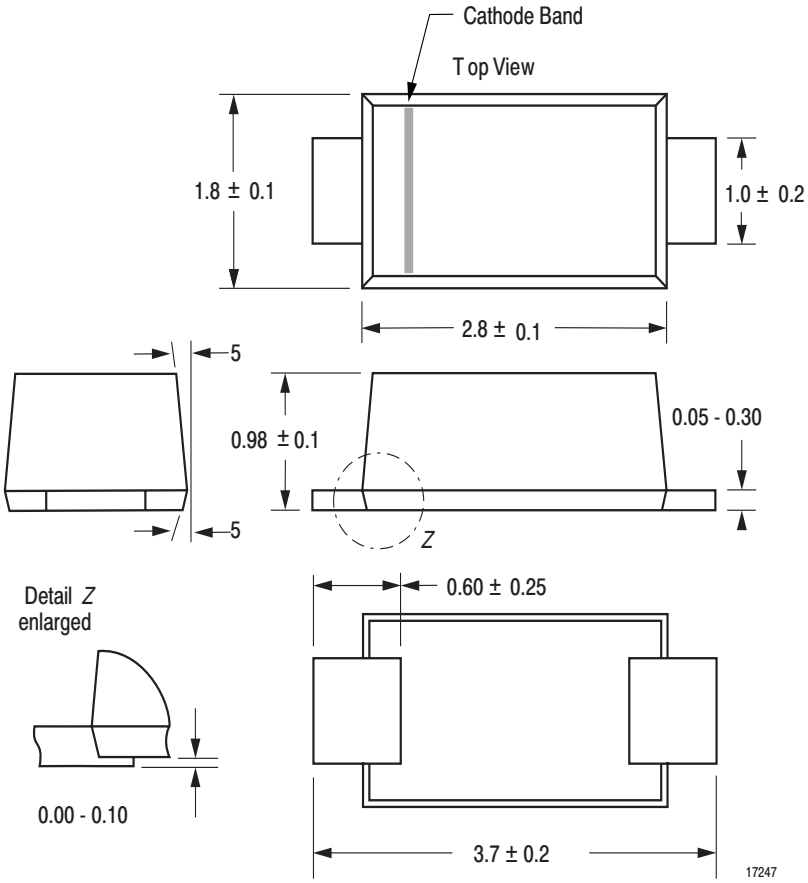
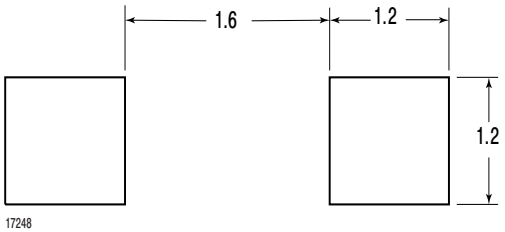


Figure 3. Typical Instantaneous Reverse Characteristics

Package Dimensions in mm



Mounting Pad Layout



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 operatingsystems 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
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423