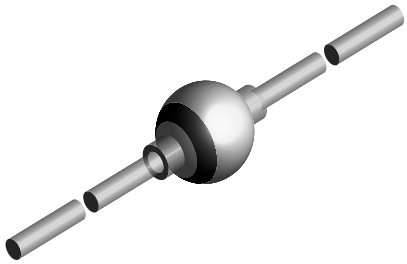
Fast Sinterglass Diode

Features

- High temperature metallurgically bonded construction
- Hermetically sealed package
- Cavity-free glass passivated junction
- 3.0 ampere operation at T_{amb} = 55 °C with no thermal runaway
- Fast switching for high efficiency



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Mechanical Data

Case: Sintered glass case, G3

Terminals: Solder plated axial leads, solderable per MILSTD- 750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 1100 mg

Parts Table

Part	Type differentiation	Package
RG3A	V_{RRM} = 50 V	G3
RG3B	V_{RRM} = 100 V	G3
RG3D	V_{RRM} = 200 V	G3
RG3G	V_{RRM} = 400 V	G3
RG3J	V_{RRM} = 600 V	G3
RG3K	V_{RRM} = 800 V	G3
RG3M	V_{RRM} = 1000 V	G3

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	RG3A	$V_R = V_{RRM}$	50	V
	see electrical characteristics	RG3B	$V_R = V_{RRM}$	100	V
	see electrical characteristics	RG3D	$V_R = V_{RRM}$	200	V
	see electrical characteristics	RG3G	$V_R = V_{RRM}$	400	V
	see electrical characteristics	RG3J	$V_R = V_{RRM}$	600	V
	see electrical characteristics	RG3K	$V_R = V_{RRM}$	800	V
	see electrical characteristics	RG3M	$V_R = V_{RRM}$	1000	V
Maximum average forward rectified current	0.375 " (9.5 mm) lead length at T_{amb} = 55 °C		$I_{F(AV)}$	3.0	A
Peak forward surge current	8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	100	A
Maximum average reverse current	at rated peak reverse voltage T_{amb} = 25 °C		$I_{R(AV)}$	2.0	µA
	at rated peak reverse voltage T_{amb} = 100 °C		$I_{R(AV)}$	100	µA
Operating junction and storage temperature range			T_J, T_{STG}	- 55 to + 175	°C

Maximum Thermal Resistance

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

Parameter			Symbol	Value	Unit
Typical thermal resistance [1]			$R_{\theta JA}$	55	K/W

[1] Thermal resistance from junction to ambient at 0.375 " (9.5 mm) lead length, with both leads attached to heat sink

Electrical Characteristics

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

Parameter	Test condition	Part	Symbol		Typ.	Max	Unit
Maximum instantaneous forward voltage	I_F = 3.0 A		V_F			1.3	V
Maximum reverse current	$V_R = V_{RRM}$		I_R			5.0	µA
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3A	t_{rr}			150	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3B	t_{rr}			150	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3D	t_{rr}			150	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3G	t_{rr}			150	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3J	t_{rr}			250	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3K	t_{rr}			400	ns
	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	RG3M	t_{rr}			500	ns
Typical junction capacitance	V_R = 4.0 V, f = 1 MHz		C_J		40		pF

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

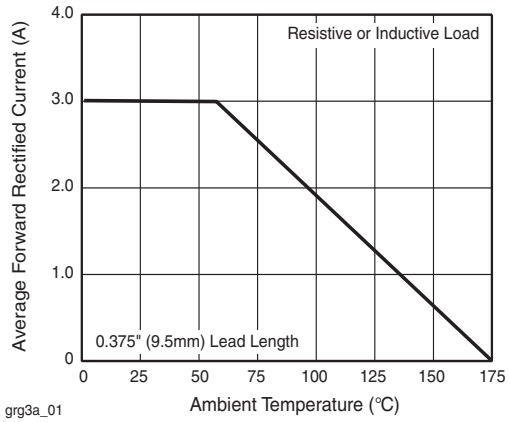


Figure 1. Forward Current Derating Curve

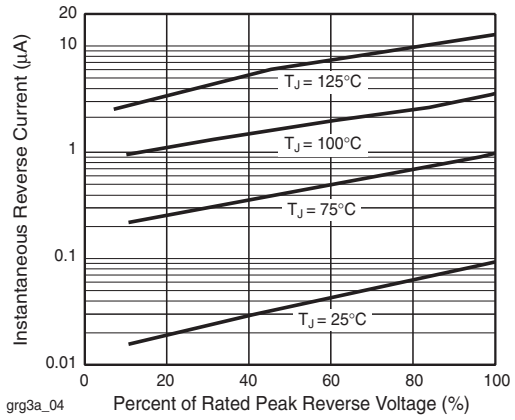


Figure 4. Typical Reverse Characteristics

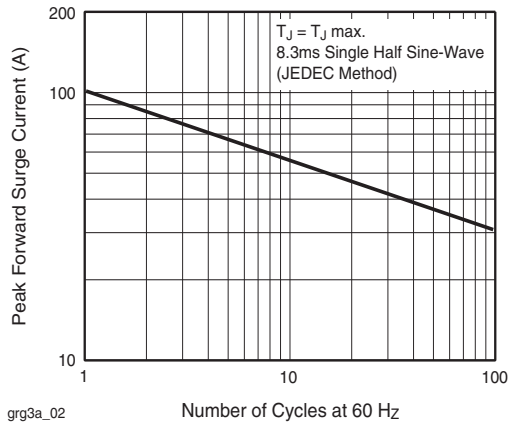


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

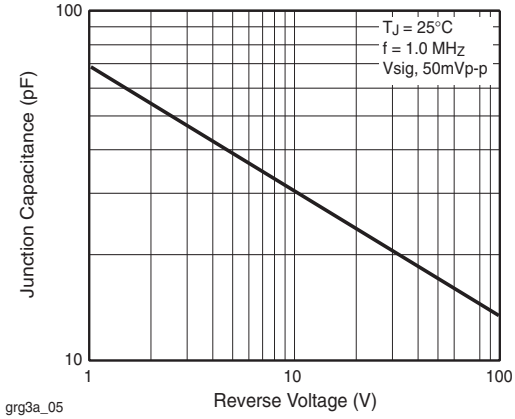


Figure 5. Typical Junction Capacitance

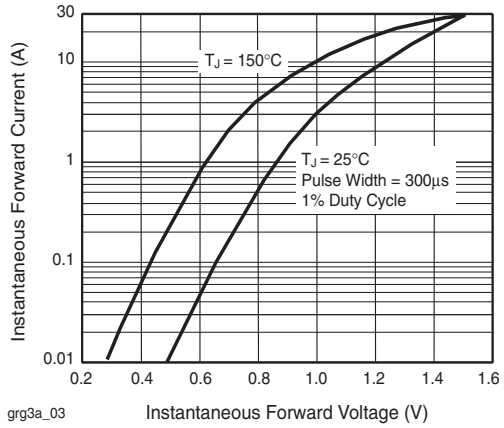
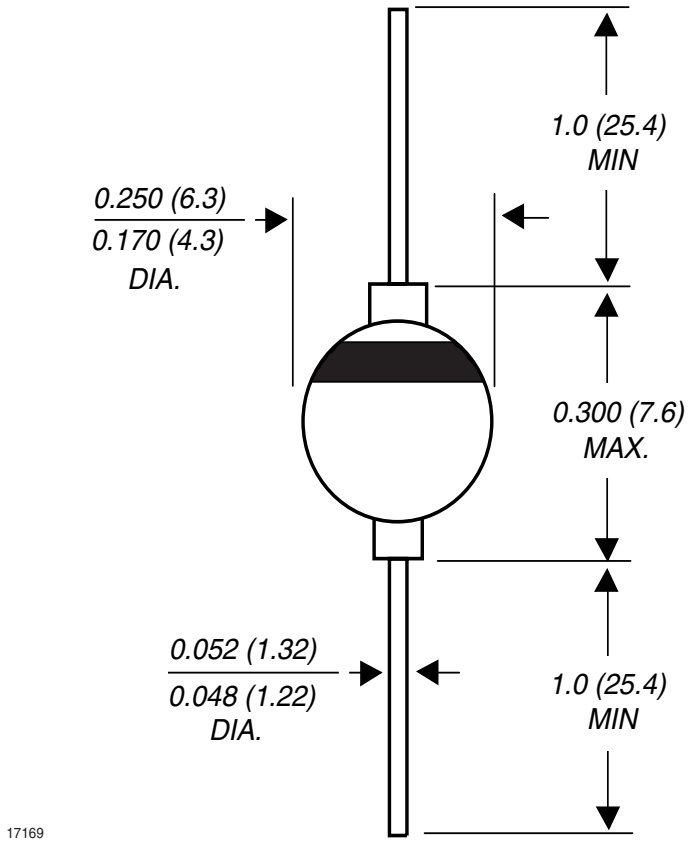


Figure 3. Typical Instantaneous Forward Characteristics

Package Dimensions in Inches (mm)



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.

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