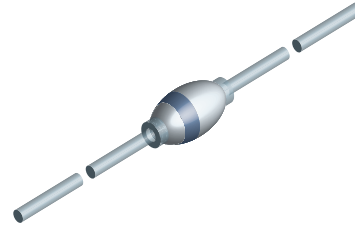


## Fast Sinterglass Diode

### Features

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



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### Mechanical Data

**Case:** Sintered glass case, JEDEC DO-204AP

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

**Mounting Position:** Any

**Weight:** 560 mg

**Polarity:** Color band denotes cathode end

### Parts Table

Part	Type differentiation	Package
RG1A	$V_{RRM} = 50\text{ V}$	DO-204AP ( G1)
RG1B	$V_{RRM} = 100\text{ V}$	DO-204AP ( G1)
RG1D	$V_{RRM} = 200\text{ V}$	DO-204AP ( G1)
RG1G	$V_{RRM} = 400\text{ V}$	DO-204AP ( G1)
RG1J	$V_{RRM} = 600\text{ V}$	DO-204AP ( G1)
RG1K	$V_{RRM} = 800\text{ V}$	DO-204AP ( G1)
RG1M	$V_{RRM} = 1000\text{ V}$	DO-204AP ( G1)

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	RG1A	$V_R = V_{RRM}$	50	V
	see electrical characteristics	RG1B	$V_R = V_{RRM}$	100	V
	see electrical characteristics	RG1D	$V_R = V_{RRM}$	200	V
	see electrical characteristics	RG1G	$V_R = V_{RRM}$	400	V
	see electrical characteristics	RG1J	$V_R = V_{RRM}$	600	V
	see electrical characteristics	RG1K	$V_R = V_{RRM}$	800	V
	see electrical characteristics	RG1M	$V_R = V_{RRM}$	1000	V
Maximum average forward rectified current	0.375 " (9.5 mm) lead length at $T_{amb} = 55\text{ }^{\circ}\text{C}$		$I_{F(AV)}$	1.0	A
Peak forward surge current	8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		$I_{FSM}$	30	A
Maximum full load reverse current	full cycle average 0.375 " (9.5 mm) lead length at $T_{amb} = 25\text{ }^{\circ}\text{C}$		$I_{R(AV)}$	1.0	$\mu\text{A}$
	full cycle average 0.375 " (9.5 mm) lead length at $T_{amb} = 100\text{ }^{\circ}\text{C}$		$I_{R(AV)}$	100	$\mu\text{A}$
Operating junction and storage temperature range			$T_J, T_{STG}$	-55 to +175	$^{\circ}\text{C}$

### Maximum Thermal Resistance

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Typical thermal resistance <sup>1)</sup>	$R_{\theta JA}$	55	K/W

<sup>1)</sup> Thermal resistance from junction to ambient at 0.375 " (9.5 mm) lead length, P.C.B. mounted

### Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Part	Symbol	Typ.	Max	Unit
Maximum instantaneous forward voltage	$I_F = 1\text{ A}$		$V_F$		1.3	V
Reverse current	$V_R = V_{RRM}$		$I_R$		2.0	$\mu\text{A}$
Maximum reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1A	$t_{rr}$		150	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1B	$t_{rr}$		150	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1D	$t_{rr}$		150	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1G	$t_{rr}$		150	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1J	$t_{rr}$		200	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1K	$t_{rr}$		250	ns
	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	RG1M	$t_{rr}$		500	ns
Typical junction capacitance	$V_R = 4.0\text{ V}, f = 1\text{ MHz}$		$C_J$	15		pF

## Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

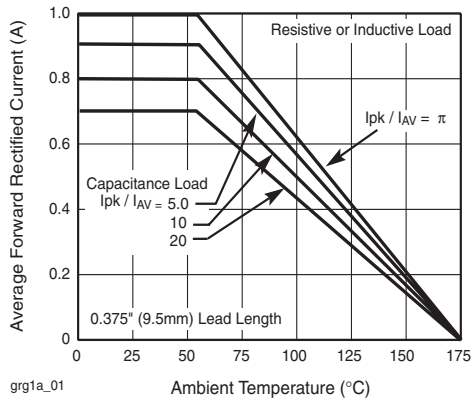


Figure 1. Forward Current Derating Curve

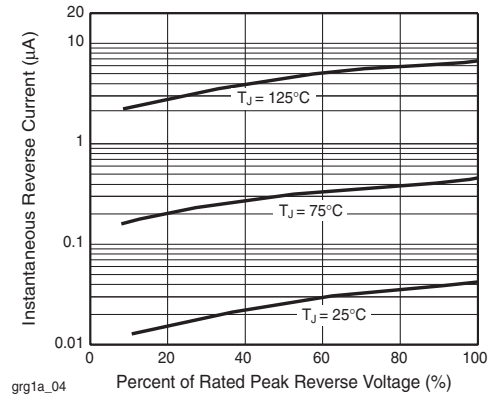


Figure 4. Typical Reverse Characteristics

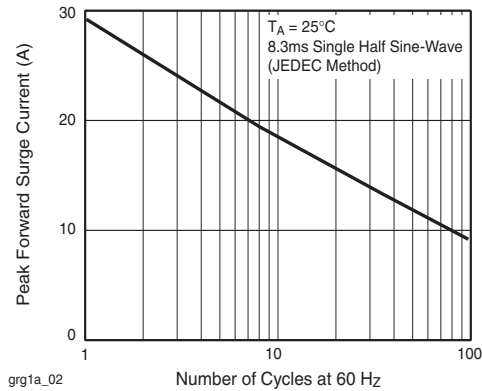


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

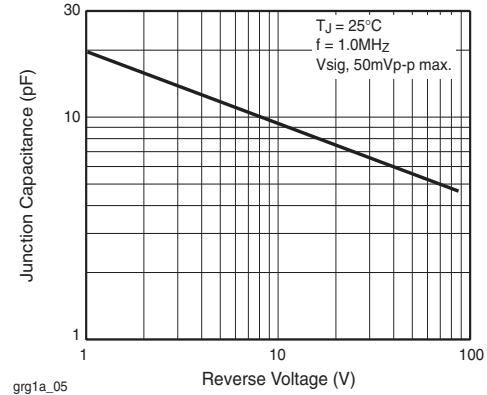


Figure 5. Typical Junction Capacitance

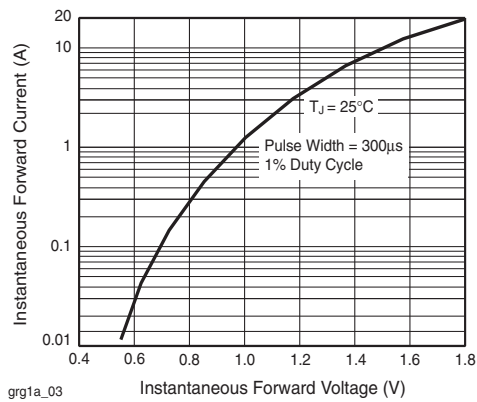


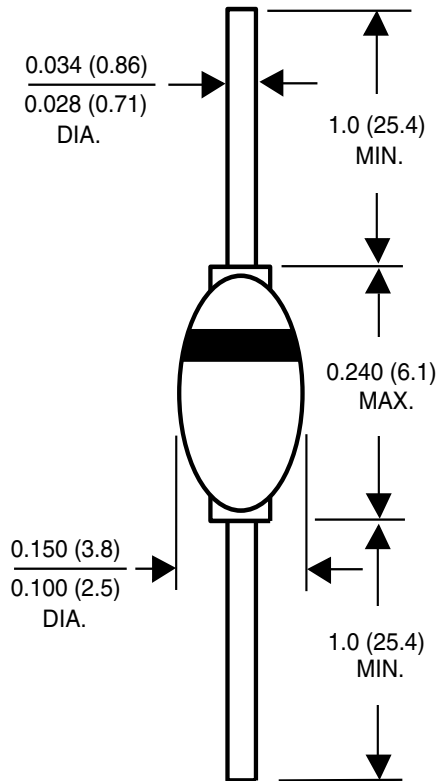
Figure 3. Typical Instantaneous Forward Characteristics

# RG1A to RG1M

Vishay Semiconductors



## Package Dimensions in Inches (mm)



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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.

**We reserve the right to make changes to improve technical design  
and may do so without further notice.**

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany  
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423