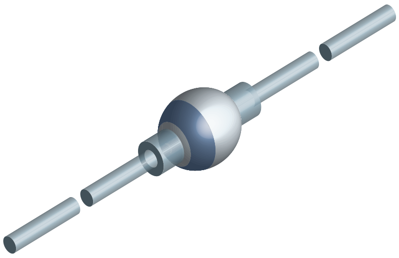
FE3A to FE3D

Vishay Semiconductors

Ultra Fast Sinterglass Diode

Features

- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Superfast recovery time for high efficiency
- Low forward voltage, high current capability
- Hermetically sealed package
- Low leakage current
- High surge current capability



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Mechanical Data

Case: Sintered glass case, G4

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 1040 mg

Parts Table

Part	Type differentiation	Package
FE3A	V_{RRM} = 50 V	G4
FE3B	V_{RRM} = 100 V	G4
FE3C	V_{RRM} = 150 V	G4
FE3D	V_{RRM} = 200 V	G4

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	FE3A	$V_R = V_{RRM}$	50	V
	see electrical characteristics	FE3B	$V_R = V_{RRM}$	100	V
	see electrical characteristics	FE3C	$V_R = V_{RRM}$	150	V
	see electrical characteristics	FE3D	$V_R = V_{RRM}$	200	V
Maximum average forward rectified current	0.375 " (9.5 mm) lead length at T_{amb} = 75 °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}	125	A
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), 2)]			$R_{\theta JA}$	55	K/W
			$R_{\theta JL}$	20	K/W

1) Thermal resistance from junction to ambient and/or lead, 0.375 " (9.5 mm) lead length mounted on P.C.B. with 0.5 x 0.5 (12 x 12 mm) copper pads.

2) Thermal resistance from junction to lead at 0.375 " (9.5 mm) lead length with both leads attached to heatsinks

Electrical Characteristics

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

Parameter	Test condition		Symbol		Typ.	Max	Unit
Maximum instantaneous forward voltage	I_F = 3.0 A		V_F			0.95	V
Maximum reverse current	$V_R = V_{RRM}$, T_{amb} = 25 °C		I_R			5.0	µA
	$V_R = V_{RRM}$, T_{amb} = 100 °C		I_R			50	µA
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}			35	ns
Typical junction capacitance	V_R = 4 V, f = 1 MHz		C_J		100		pF

Typical Characteristics (T$_{amb}$ = 25 °C unless otherwise specified)

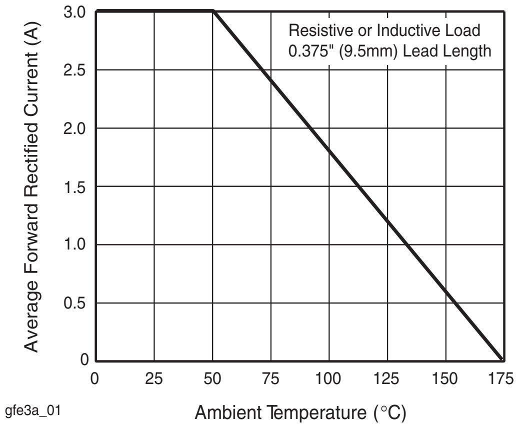


Figure 1. Maximum Forward Current Derating Curve

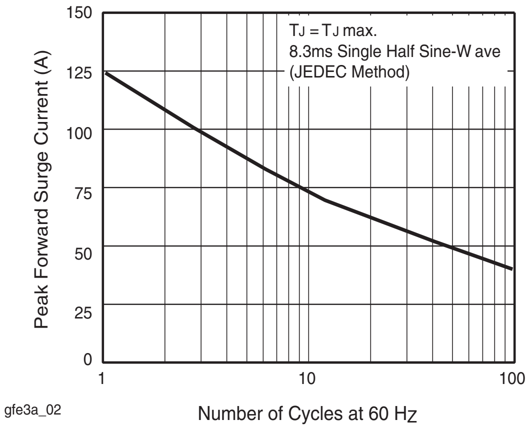


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

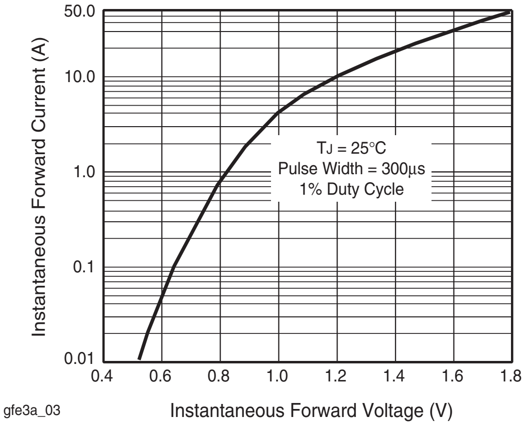


Figure 3. Typical Instantaneous Forward Characteristics

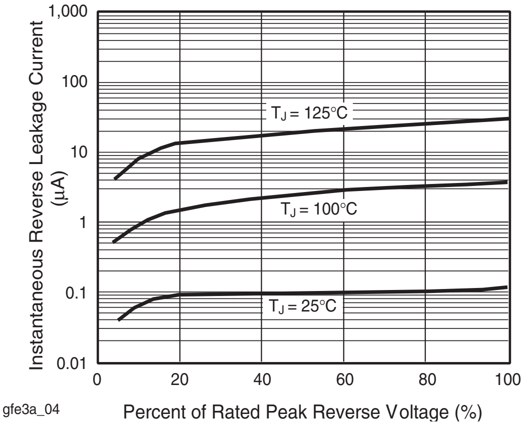


Figure 4. Typical Reverse Leakage Characteristics

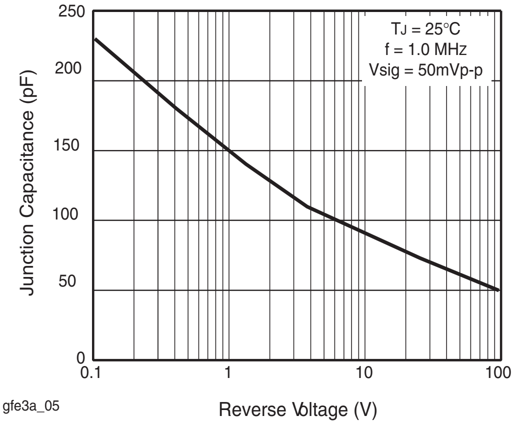
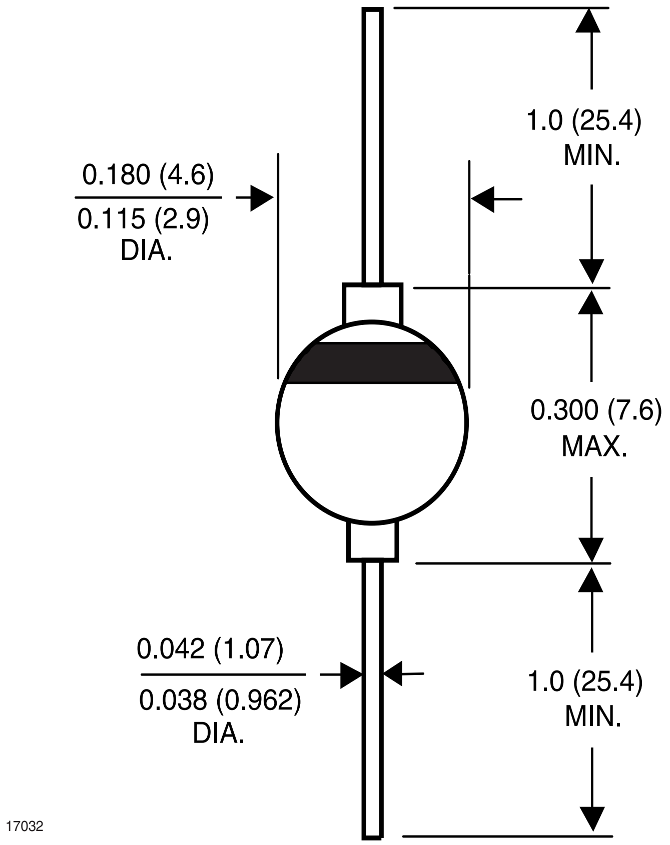


Figure 5. Typical Junction Capacitance

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.

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.

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