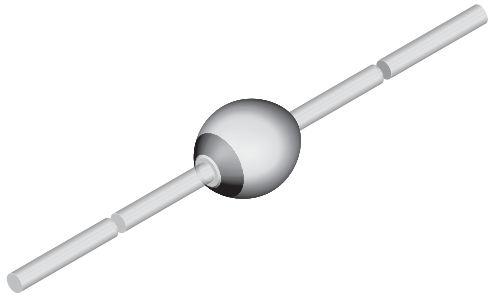
Ultrafast Avalanche Sinterglass Diode



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FEATURES

- Very low switching losses
- Glass passivated
- High reverse voltage
- Hermetically sealed axial-leaded glass envelope
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb
e2
RoHS COMPLIANT
HALOGEN FREE

APPLICATIONS

- Switched mode power supplies
- High-frequency inverter circuits

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOD-57

Terminals: plated axial leads, solderable per MIL-STD-750, method 2026

Polarity: color band denotes cathode end

Mounting position: any

Weight: approx. 369 mg

ORDERING INFORMATION (Example)

DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
SF1600	SF1600-TR	5000 per 10" tape and reel	25 000
SF1600	SF1600-TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
SF1200	V_R = 1200 V; $I_{F(AV)}$ = 1 A	SOD-57
SF1600	V_R = 1600 V; $I_{F(AV)}$ = 1 A	SOD-57

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	SF1200	$V_R = V_{RRM}$	1200	V
		SF1600	$V_R = V_{RRM}$	1600	V
Peak forward surge current	t_p = 10 ms, half sine wave		I_{FSM}	30	A
Average forward current	Half sine wave, $V_R = V_{RRM}$, R_{thJA} = 45 K/W		$I_{F(AV)}$	1	A
Max. pulse energy in avalanche mode, non repetitive (inductive load switch off	$I_{(BR)R}$ = 400 mA, inductive load		E_R	10	mJ
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	°C

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MAXIMUM THERMAL RESISTANCE (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Junction ambient	Lead length l = 10 mm, T_L = constant	R_{thJA}	45	K/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 1 A		V_F	-	-	3.4	V
Reverse current	$V_R = V_{RRM}$		I_R	-	-	5	μA
	$V_R = V_{RRM}$, T_j = 125 °C		I_R	-	-	50	μA
Reverse breakdown voltage	I_R = 100 μA	SF1200	$V_{(BR)R}$	1250	-	-	V
		SF1600	$V_{(BR)R}$	1650	-	-	V
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}	-	-	75	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

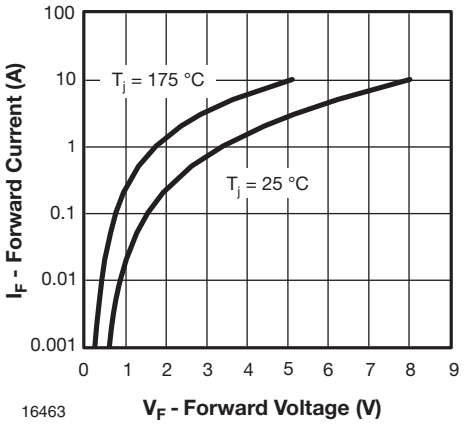

Fig. 1 - Forward Current vs. Forward Voltage

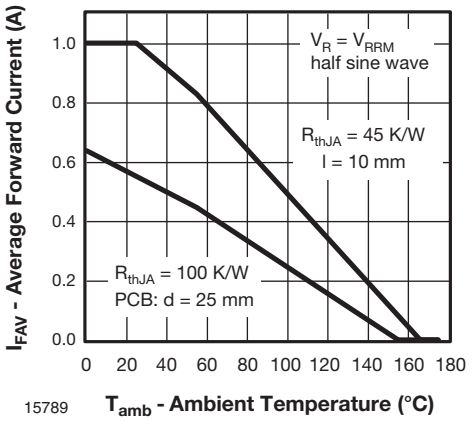

Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

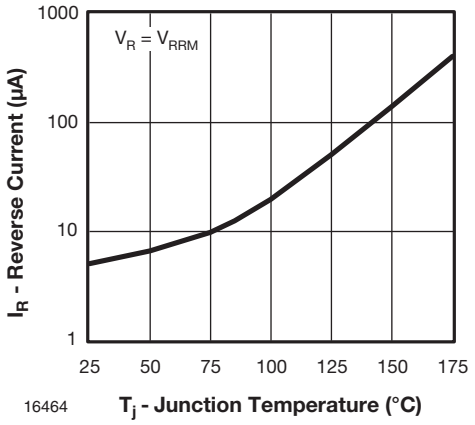

Fig. 3 - Reverse Current vs. Junction Temperature

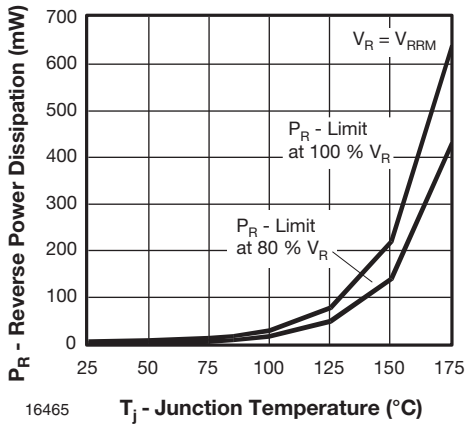

Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

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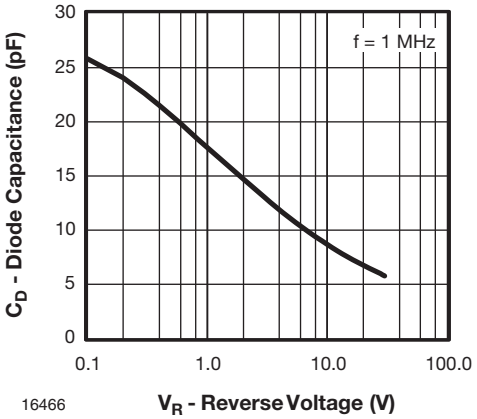
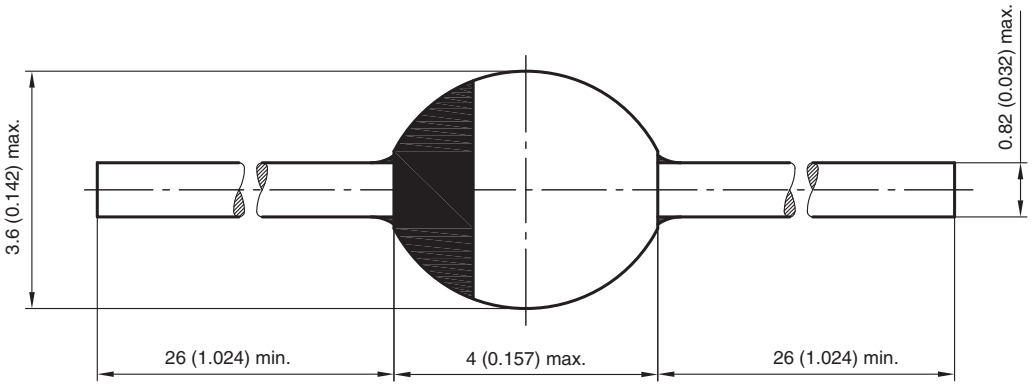


Fig. 5 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-57**



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