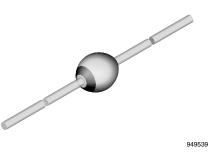
Vishay Semiconductors

Ultrafast Avalanche Sinterglass Diode



www.vishay.com

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

FEATURES

- Very low switching losses
- Glass passivated
- High reverse voltage
- Hermetically sealed axial-leaded glass envelope
 - a glass ROHS COMPLIANT HALOGEN FREE ease see

 Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

APPLICATIONS

- Switched mode power supplies
- High-frequency inverter circuits

ORDERING INFORMATION (Example)					
DEVICE NAME	E NAME ORDERING CODE TAPED UNITS MINIMUM ORDER Q				
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	$V_{R} = 1200 \text{ V}; \text{ I}_{F(AV)} = 1 \text{ A}$	SOD-57			
SF1600	$V_{R} = 1600 \text{ V}; I_{F(AV)} = 1 \text{ A}$	SOD-57			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
Reverse voltage = repetitive peak	See electrical characteristics	SF1200	$V_{R} = V_{RRM}$	1200	V	
reverse voltage	See electrical characteristics	SF1600	$V_{R} = V_{RRM}$	1600	V	
Peak forward surge current	t _p = 10 ms, half sine wave		I _{FSM}	30	А	
Average forward current	Half sine wave, $V_R = V_{RRM}$, $R_{thJA} = 45 \text{ K/W}$		I _{F(AV)}	1	А	
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	

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

Rev. 1.8, 11-Sep-12

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Document Number: 86059

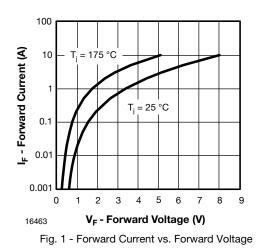
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ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 1 A		V _F	-	-	3.4	V
Reverse current	$V_{R} = V_{RRM}$		I _R	-	-	5	μA
	$V_R = V_{RRM}, T_j = 125 \ ^\circ C$		I _R	-	-	50	μA
Reverse breakdown voltage	l _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)



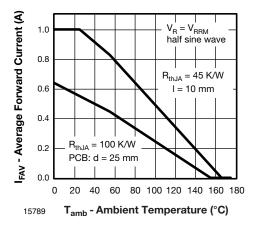
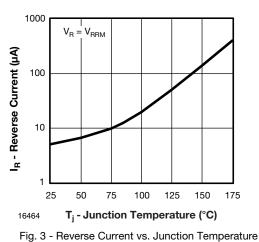
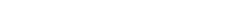


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature





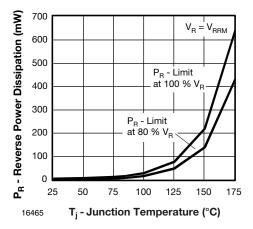


Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

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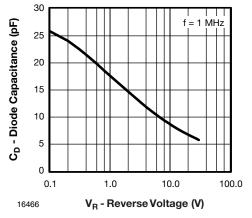
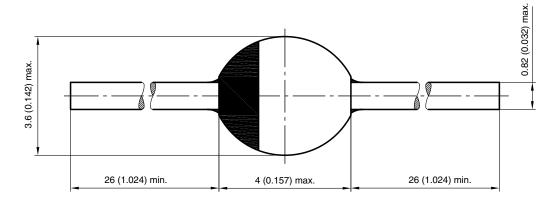


Fig. 5 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



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