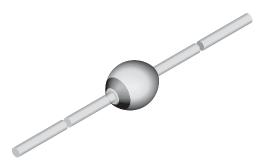


Vishay Semiconductors

Ultra-Fast Avalanche Sinterglass Diode



949539

DESIGN SUPPORT TOOLS

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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

- · Glass passivated junction
- Hermetically sealed axial-leaded glass envelope
- Low reverse current
- · Ultra fast soft recovery switching
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>



RoHS

COMPLIANT HALOGEN FREE

APPLICATIONS

- Electronic ballast
- SMPS

ORDERING INFORMATION (Example)					
DEVICE NAME	DEVICE NAME ORDERING CODE TAPED UNITS MINIMUM ORDER QUANT				
BYV27-600	BYV27-600-TR	5000 per 10" tape and reel	25 000		
BYV27-600	BYV27-600-TAP	5000 per ammopack	25 000		

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
BYV27-600	V _R = 600 V; I _{F(AV)} = 2 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	BYV27-600	$V_R = V_{RRM}$	600	V	
Peak forward surge current	$t_p = 10 \text{ ms}$, half sine wave		I _{FSM}	50	Α	
Average forward current	$T_{amb} = 50 ^{\circ}\text{C}, I = 10 \text{mm}$		I _{F(AV)}	2	Α	
Non repetitive reverse avalanche energy	Inductive load, $I_{(BR)R} = 400 \text{ mA}$		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	
Junction ambient	On PC board with spacing 25 mm	R_{thJA}	100	K/W	



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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}	-	-	1.15	V
	I _F = 3 A		V _F	-	-	1.35	V
	I _F = 1 A, T _j = 175 °C		V_{F}	-	-	0.85	٧
	I _F = 3 A, T _j = 175 °C		V_{F}	-	-	1.15	٧
Reverse current	$V_R = V_{RRM}$		I _R	-	-	5	μΑ
neverse current	$V_R = V_{RRM}$, $T_j = 150 ^{\circ}C$		I _R	-	-	150	μΑ
Reverse breakdown voltage	I _R = 100 μA	BYV27-600	$V_{(BR)R}$	600	-	-	٧
Reverse recovery time	I _F = 0.5 A, I _R = 1 A, i _R = 0.25 A		t _{rr}	-	-	40	ns
Forward recovery	I _F = 1 A		V_{FP}	-	3.4	-	V
Forward recovery time	I _F = 1 A		t _{fr}	-	250	-	ns

2.2

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

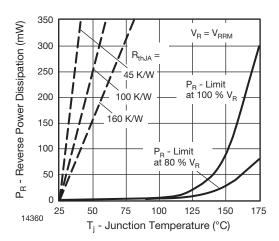


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

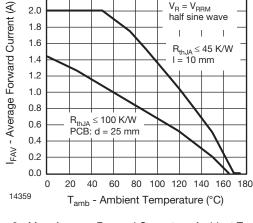


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

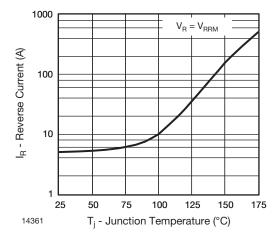


Fig. 2 - Max. Reverse Current vs. Junction Temperature

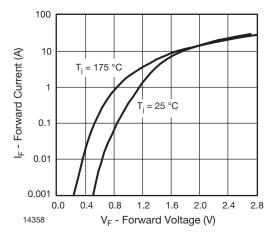


Fig. 4 - Max. Forward Current vs. Forward Voltage



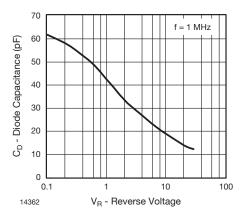
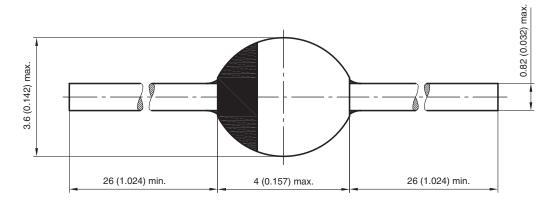


Fig. 5 - Typ. Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



20543

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