

Vishay Semiconductors

Fast Avalanche Sinterglass Diode



949539

FEATURES

- · Glass passivated junction
- · Hermetically sealed package
- Low reverse current
- · Soft recovery characteristics
- Material categorization:
 For definitions of compliance please see www.vishay.com/doc?99912





ROHS COMPLIANT HALOGEN FREE

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

APPLICATIONS

• Fast "soft recovery" rectification diode

ORDERING INFORMATION (Example)						
DEVICE NAME	ORDERING CODE	RDERING CODE TAPED UNITS MINIMUM ORDER QUANTITY				
BYV38	BYV38-TR	5000 per 10" tape and reel	25 000			
BYV38	BYV38-TAP	5000 per ammopack	25 000			

PARTS TABLE						
PART	TYPE DIFFERENTIATION	PACKAGE				
BYV37	$V_R = 800 \text{ V}; I_{F(AV)} = 2 \text{ A}$	SOD-57				
BYV38	$V_R = 1000 \text{ V}; I_{F(AV)} = 2 \text{ A}$	SOD-57				

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
Reverse voltage	See electrical characteristics	BYV37	$V_R = V_{RRM}$	800	V	
neverse voltage		BYV38	$V_R = V_{RRM}$	1000	٧	
Peak forward surge current	$t_p = 10$ ms, half sine wave		I _{FSM}	50	Α	
Average forward current			I _{F(AV)}	2	Α	
Non repetitive reverse avalanche energy	I _{(BR)R} = 0.4 A		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	1.1	V
Reverse current	$V_R = V_{RRM}$		I _R	-	-	5	μΑ
	$V_R = V_{RRM}$, $T_j = 150 ^{\circ}C$		I _R	-	-	150	μΑ
Reverse recovery time	$I_F = 0.5 A$, $I_R = 1 A$, $I_R = 0.25 A$		t _{rr}	-	-	300	ns
Diode capacitance	$V_R = 4 V$, $f = 1 MHz$		C_D	-	15	-	pF

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

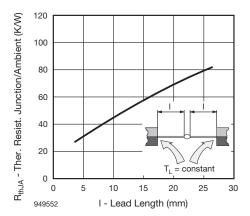


Fig. 1 - Max. Thermal Resistance vs. Lead Length

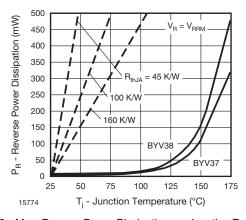


Fig. 2 - Max. Reverse Power Dissipation vs. Junction Temperature

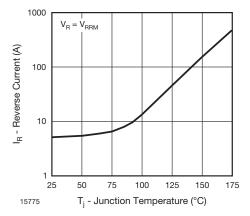


Fig. 3 - Max. Reverse Current vs. Junction Temperature

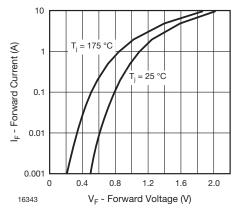


Fig. 4 - Forward Current vs. Forward Voltage



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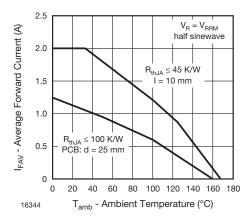


Fig. 5 - Max. Average Forward Current vs. Ambient Temperature

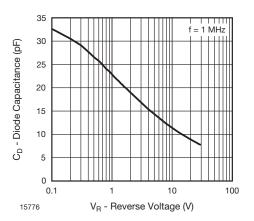
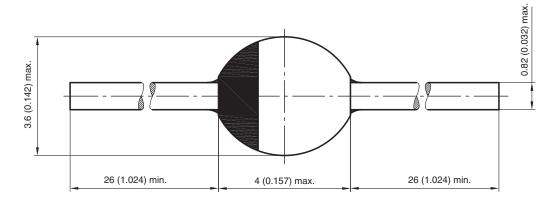


Fig. 6 - Typ. Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



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