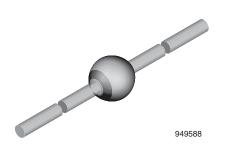


Vishay Semiconductors

Fast Avalanche Sinterglass Diode



FEATURES

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



HALOGEN

FREE

APPLICATIONS

• Fast "soft recovery" rectification diode

DESIGN SUPPORT TOOLS



MECHANICAL DATA

Case: SOD-64

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

method 2026

Polarity: color band denotes cathode end

Mounting position: any Weight: approx. 858 mg

ORDERING INFORMATION (Example)						
DEVICE NAME	ORDERING CODE TAPED UNITS MINIMUM ORDER QUAN					
BYT78	BYT78-TR	2500 per 10" tape and reel	12 500			
BYT78	BYT78-TAP	2500 per ammopack	12 500			

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
BYT77	$V_R = 800 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			
BYT78	$V_R = 1000 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION PART		SYMBOL	VALUE	UNIT		
Reverse voltage = repetitive peak reverse	See electrical characteristics	BYT77	$V_R = V_{RRM}$	800	٧		
voltage	See electrical characteristics	BYT78	$V_R = V_{RRM}$	1000	V		
Peak forward surge current	$t_p = 10$ ms, half sine wave		I _{FSM}	100	Α		
Average forward current	T _{amb} ≤ 45 °C		I _{F(AV)}	3	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}	25	K/W		
Junction ambient	On PC board with spacing 25 mm	R_{thJA}	70	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 = 3 A		V _F	-	1	1.2	V
Reverse current	$V_R = V_{RRM}$		I _R	-	1	5	μΑ
	$V_R = V_{RRM}, T_j = 150 ^{\circ}C$		I _R	-	60	150	μΑ
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, i_R = 0.25 \text{ A}$		t _{rr}	-	-	250	ns

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

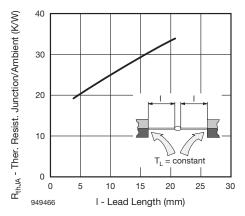


Fig. 1 - Max. Thermal Resistance vs. Lead Length

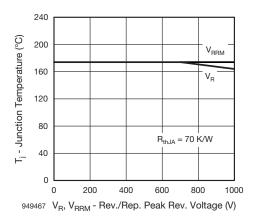


Fig. 2 - Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

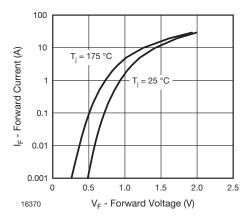


Fig. 3 - Forward Current vs. Forward Voltage

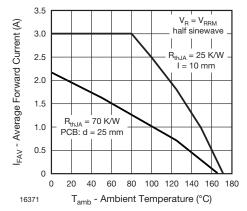


Fig. 4 - Max. Average Forward Current vs. Ambient Temperature



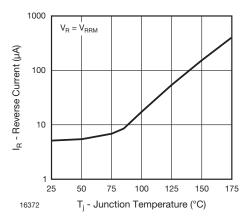


Fig. 5 - Reverse Current vs. Junction Temperature

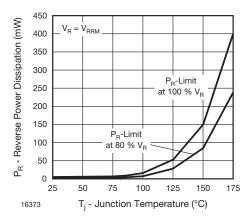


Fig. 6 - Max Reverse Power Dissipation vs. Junction Temperature

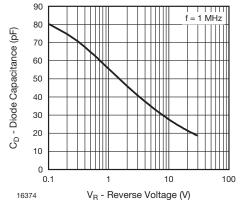
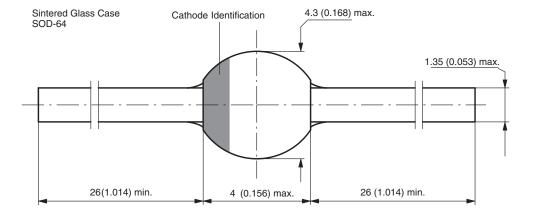


Fig. 7 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-64



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