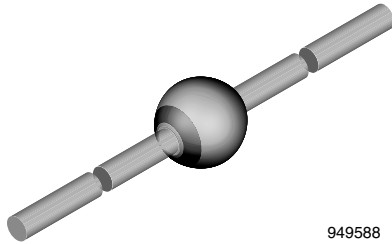


## Fast Avalanche Sinterglass Diode



949588

### 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

### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Soft recovery characteristics
- Controlled avalanche characteristics
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition


**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**

### APPLICATIONS

- Fast “soft recovery” rectification diode

### PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYT77	$V_R = 800\text{ V}; I_{FAV} = 3\text{ A}$	SOD-64
BYT78	$V_R = 1000\text{ V}; I_{FAV} = 3\text{ A}$	SOD-64

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYT77	$V_R = V_{RRM}$	800	V
		BYT78	$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	100	A
Average forward current	$T_{amb} \leq 45\text{ }^\circ\text{C}$		$I_{FAV}$	3	A
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4\text{ A}$		$E_R$	10	mJ
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	$^\circ\text{C}$

### MAXIMUM THERMAL RESISTANCE ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	25	K/W
	On PC board with spacing 25 mm	$R_{thJA}$	70	K/W

### ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 3\text{ A}$		$V_F$	-	1	1.2	V
Reverse current	$V_R = V_{RRM}$		$I_R$	-	1	5	$\mu\text{A}$
	$V_R = V_{RRM}$ , $T_j = 150\text{ }^\circ\text{C}$		$I_R$	-	60	150	$\mu\text{A}$
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 ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

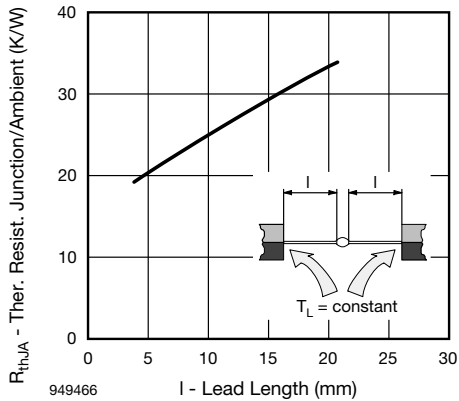


Fig. 1 - Max. Thermal Resistance vs. Lead Length

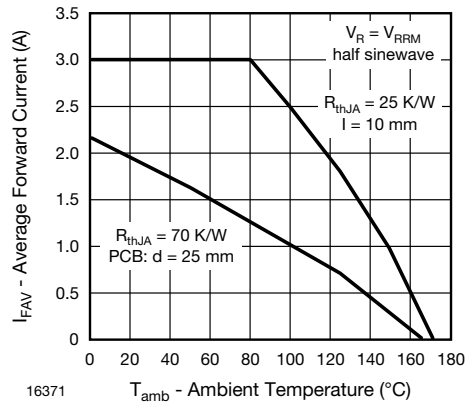


Fig. 4 - Max. Average Forward Current vs. Ambient Temperature

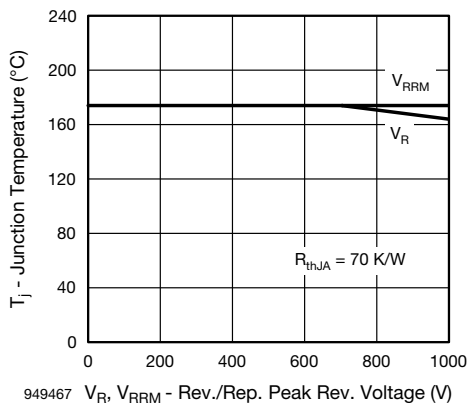


Fig. 2 - Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

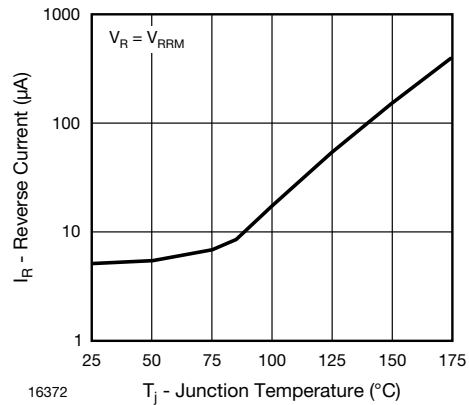


Fig. 5 - Reverse Current vs. Junction Temperature

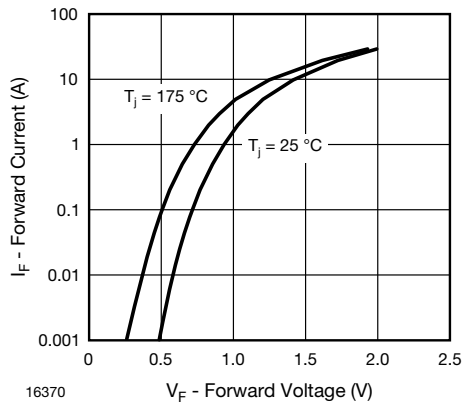


Fig. 3 - Forward Current vs. Forward Voltage

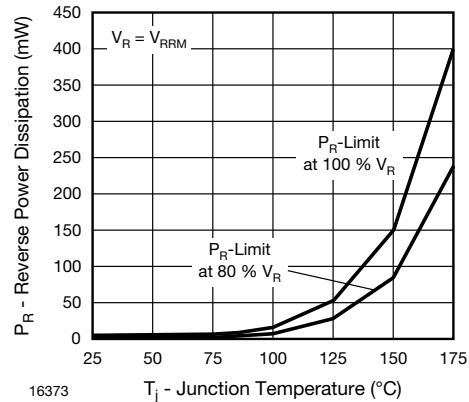


Fig. 6 - Max Reverse Power Dissipation vs. Junction Temperature

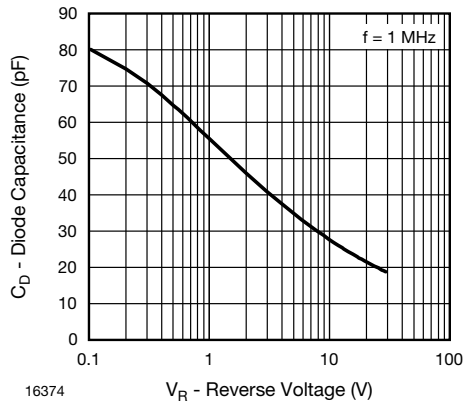
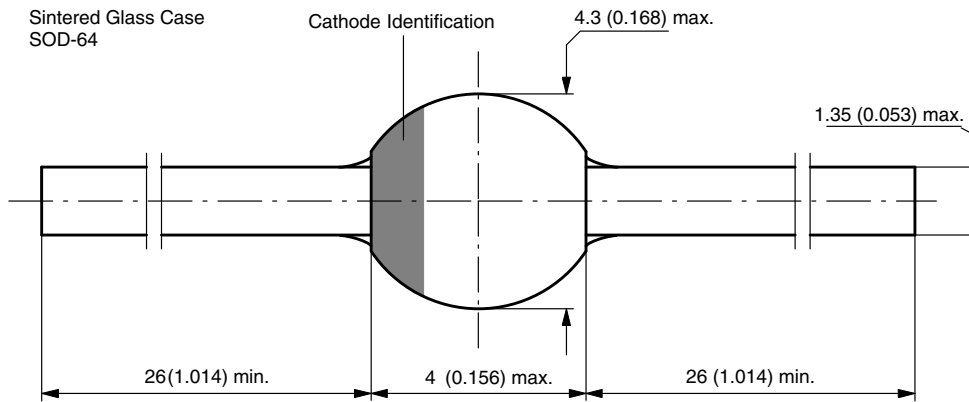


Fig. 7 - Diode Capacitance vs. Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-64**


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 Rev. 3 - Date: 09.February.2005  
 94 9587



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