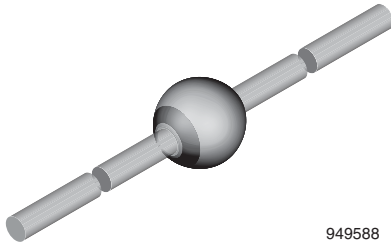


Fast Avalanche Sinterglass Diode



949588

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


RoHS
COMPLIANT
HALOGEN
FREE

DESIGN SUPPORT TOOLS

[click logo to get started](#)
3D
Models
Available

APPLICATIONS

- Fast “soft recovery” rectification diode

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 QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| BYT78 | BYT78-TR | 2500 per 10" tape and reel | 12 500 |
| BYT78 | BYT78-TAP | 2500 per ammpack | 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 ($T_{amb} = 25\text{ }^\circ\text{C}$, 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 | $T_{amb} \leq 45\text{ }^\circ\text{C}$ | | $I_{F(AV)}$ | 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 | μA |
| | $V_R = V_{RRM}, T_j = 150\text{ }^{\circ}\text{C}$ | | I_R | - | 60 | 150 | μA |
| Reverse recovery time | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$ | | t_{rr} | - | - | 250 | ns |

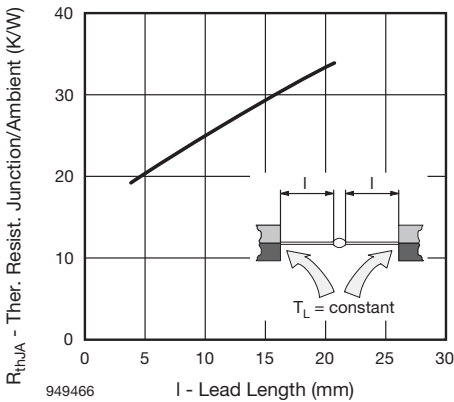
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

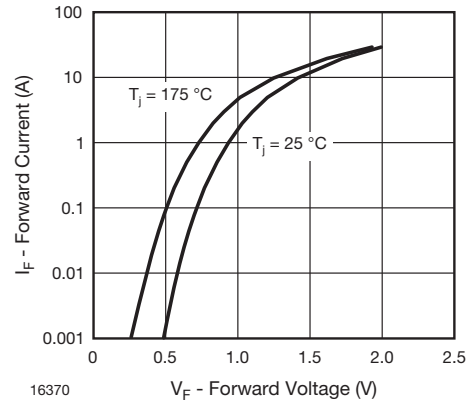


Fig. 3 - Forward Current vs. Forward Voltage

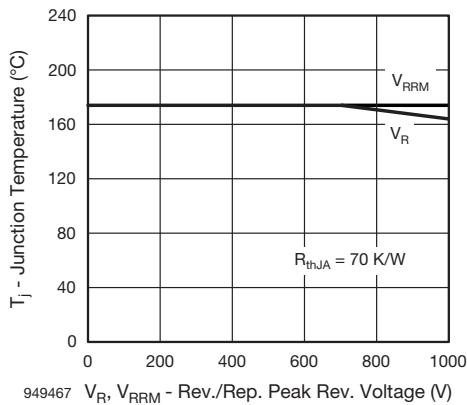


Fig. 2 - Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

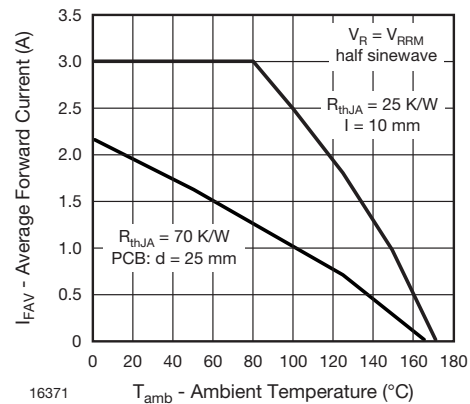


Fig. 4 - Max. Average Forward Current vs. Ambient Temperature

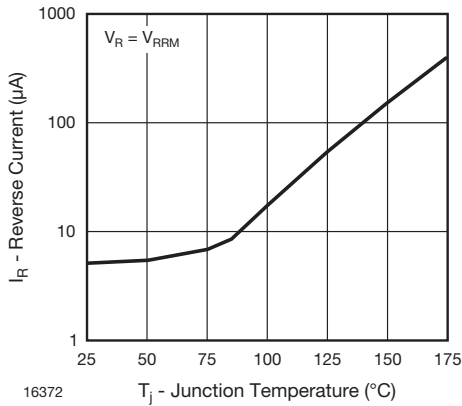


Fig. 5 - Reverse Current vs. Junction Temperature

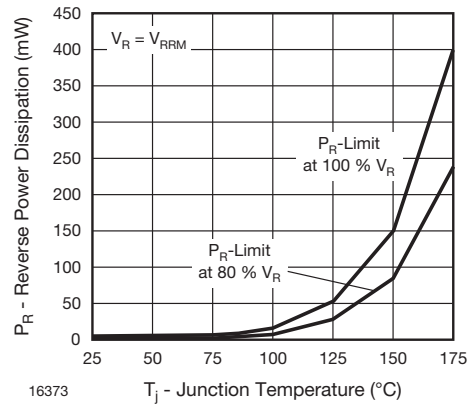


Fig. 6 - Max Reverse Power Dissipation vs. Junction Temperature

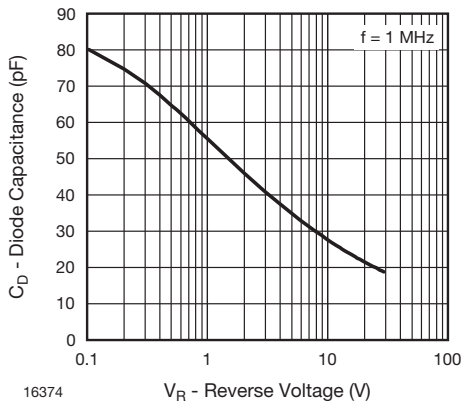
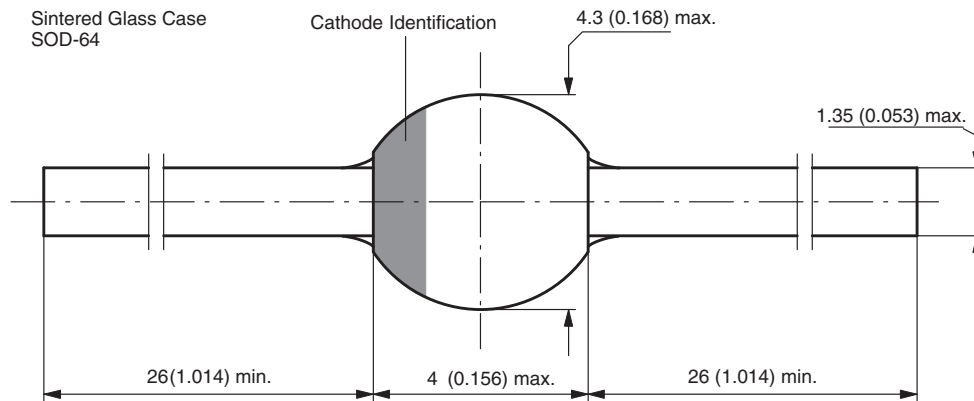


Fig. 7 - Diode Capacitance vs. Reverse Voltage

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



Document-No.: 6.563-5006.4-4
 Rev. 3 - Date: 09.February.2005
 94 9587



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