

BYW72, BYW73, BYW74, BYW75, BYW76

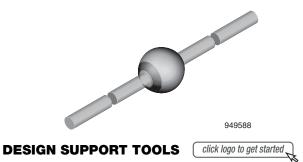
Vishay Semiconductors

ROHS COMPLIANT

HALOGEN

FREE

Fast Avalanche Sinterglass 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

FEATURES

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

APPLICATIONS

• Fast rectification and switching diode for TV-line output circuits and switch mode power supply

| ORDERING INFORMATION (Example) | | | | | |
|--------------------------------|---------------|----------------------------|------------------------|--|--|
| DEVICE NAME | ORDERING CODE | TAPED UNITS | MINIMUM ORDER QUANTITY | | |
| BYW72 or BYW73 | BYW73-TR | 2500 per 10" tape and reel | 12 500 | | |
| BYW72 or BYW73 | BYW73-TAP | 2500 per ammopack | 12 500 | | |
| BYW74 or BYW75 or BYW76 | BYW76-TR | 2500 per 10" tape and reel | 12 500 | | |
| BYW74 or BYW75 or BYW76 | BYW76-TAP | 2500 per ammopack | 12 500 | | |

| PARTS TABLE | | | | | |
|-------------|--|---------|--|--|--|
| PART | TYPE DIFFERENTIATION | PACKAGE | | | |
| BYW72 | V _R = 200 V; I _{F(AV)} = 3 A | SOD-64 | | | |
| BYW73 | V _R = 300 V; I _{F(AV)} = 3 A | SOD-64 | | | |
| BYW74 | V _R = 400 V; I _{F(AV)} = 3 A | SOD-64 | | | |
| BYW75 | V _R = 500 V; I _{F(AV)} = 3 A | SOD-64 | | | |
| BYW76 | V _R = 600 V; I _{F(AV)} = 3 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 voltage | | BYW72 | $V_{R} = V_{RRM}$ | 200 | V | |
| | | BYW73 | $V_R = V_{RRM}$ | 300 | V | |
| | See electrical characteristics | BYW74 | $V_{R} = V_{RRM}$ | 400 | V | |
| | | BYW75 | $V_{R} = V_{RRM}$ | 500 | V | |
| | | BYW76 | $V_{R} = V_{RRM}$ | 600 | V | |
| Peak forward surge current | t _p = 10 ms, half sine wave | | I _{FSM} | 100 | А | |
| Repetitive peak forward current | | | I _{FRM} | 15 | А | |
| Average forward current | | | I _{F(AV)} | 3 | А | |
| 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 | |

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1

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| 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 | |
| | On PC board with spacing 25 mm | R _{thJA} | 70 | K/W | |

| 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 | - | 0.95 | 1.1 | V |
| Reverse current | $V_{R} = V_{RRM}$ | | I _R | - | 1 | 5 | μA |
| | V _R = V _{RRM} , T _j = 150 °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} | - | - | 200 | ns |

TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

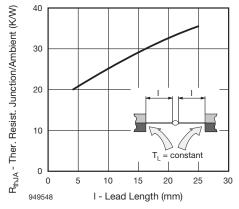


Fig. 1 - Max. Thermal Resistance vs. Lead Length

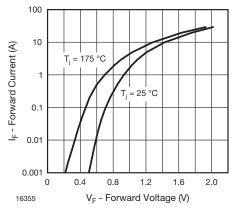


Fig. 2 - Max. Forward Current vs. Forward Voltage

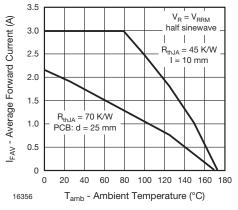


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

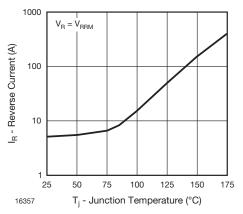


Fig. 4 - Max. Reverse Current vs. Junction Temperature



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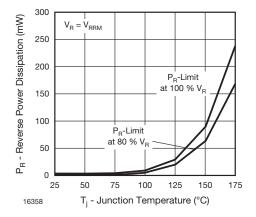


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

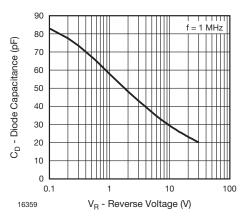


Fig. 6 - Diode Capacitance vs. Reverse Voltage

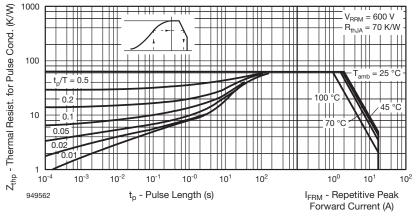
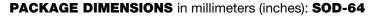
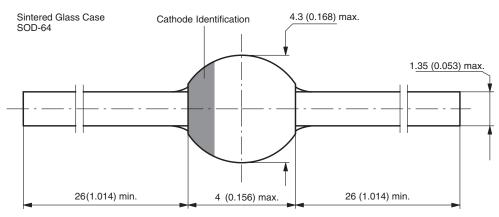


Fig. 7 - Thermal Response





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3

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