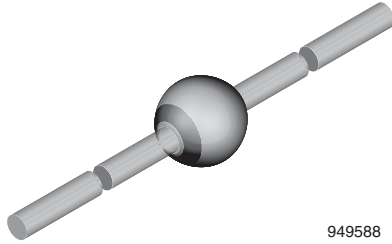




Fast Avalanche Sinterglass Diode



949588

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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

FEATURES

- Glass passivated
- Hermetically sealed package
- Very low switching losses
- Low reverse current
- High reverse voltage
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Switched mode power supplies
- High-frequency inverter circuits

| ORDERING INFORMATION (Example) | | | |
|--------------------------------|---------------|----------------------------|------------------------|
| DEVICE NAME | ORDERING CODE | TAPED UNITS | MINIMUM ORDER QUANTITY |
| BYM36E | BYM36E-TR | 2500 per 10" tape and reel | 12 500 |
| BYM36E | BYM36E-TAP | 2500 per ammpack | 12 500 |

| PARTS TABLE | | |
|-------------|---|---------|
| PART | TYPE DIFFERENTIATION | PACKAGE |
| BYM36A | $V_R = 200\text{ V}; I_{F(AV)} = 3\text{ A}$ | SOD-64 |
| BYM36B | $V_R = 400\text{ V}; I_{F(AV)} = 3\text{ A}$ | SOD-64 |
| BYM36C | $V_R = 600\text{ V}; I_{F(AV)} = 3\text{ A}$ | SOD-64 |
| BYM36D | $V_R = 800\text{ V}; I_{F(AV)} = 2.9\text{ A}$ | SOD-64 |
| BYM36E | $V_R = 1000\text{ V}; I_{F(AV)} = 2.9\text{ A}$ | 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 | BYM36A | $V_R = V_{RRM}$ | 200 | V |
| | | BYM36B | $V_R = V_{RRM}$ | 400 | V |
| | | BYM36C | $V_R = V_{RRM}$ | 600 | V |
| | | BYM36D | $V_R = V_{RRM}$ | 800 | V |
| | | BYM36E | $V_R = V_{RRM}$ | 1000 | V |
| Peak forward surge current | $t_p = 10\text{ ms}$, half sine wave | | I_{FSM} | 65 | A |
| Average forward current | | BYM36A | $I_{F(AV)}$ | 3 | A |
| | | BYM36B | $I_{F(AV)}$ | 3 | A |
| | | BYM36C | $I_{F(AV)}$ | 3 | A |
| | | BYM36D | $I_{F(AV)}$ | 2.9 | A |
| | | BYM36E | $I_{F(AV)}$ | 2.9 | A |
| Non repetitive reverse avalanche energy | $I_{(BR)R} = 1\text{ A}$, inductive load | | E_R | 20 | 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 | $I_F = 3\text{ A}$ | BYM36A | V_F | - | - | 1.6 | V |
| | | BYM36B | V_F | - | - | 1.6 | V |
| | | BYM36C | V_F | - | - | 1.6 | V |
| | | BYM36D | V_F | - | - | 1.78 | V |
| | | BYM36E | V_F | - | - | 1.78 | V |
| | $I_F = 3\text{ A}$, $T_j = 175\text{ }^{\circ}\text{C}$ | BYM36A | V_F | - | - | 1.22 | V |
| | | BYM36B | V_F | - | - | 1.22 | V |
| | | BYM36C | V_F | - | - | 1.22 | V |
| | | BYM36D | V_F | - | - | 1.28 | V |
| | | BYM36E | V_F | - | - | 1.28 | V |
| Reverse current | $V_R = V_{RRM}$ | | I_R | - | - | 5 | μA |
| | $V_R = V_{RRM}$, $T_j = 150\text{ }^{\circ}\text{C}$ | | I_R | - | - | 100 | μA |
| Reverse recovery time | $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$ | BYM36A | t_{rr} | - | - | 100 | ns |
| | | BYM36B | t_{rr} | - | - | 100 | ns |
| | | BYM36C | t_{rr} | - | - | 100 | ns |
| | | BYM36D | t_{rr} | - | - | 150 | ns |
| | | BYM36E | t_{rr} | - | - | 150 | ns |
| Reverse breakdown voltage | $I_R = 100\text{ }\mu\text{A}$ | BYM36A | $V_{(BR)R}$ | 300 | - | - | V |
| | | BYM36B | $V_{(BR)R}$ | 500 | - | - | V |
| | | BYM36C | $V_{(BR)R}$ | 700 | - | - | V |
| | | BYM36D | $V_{(BR)R}$ | 900 | - | - | V |
| | | BYM36E | $V_{(BR)R}$ | 1100 | - | - | V |

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

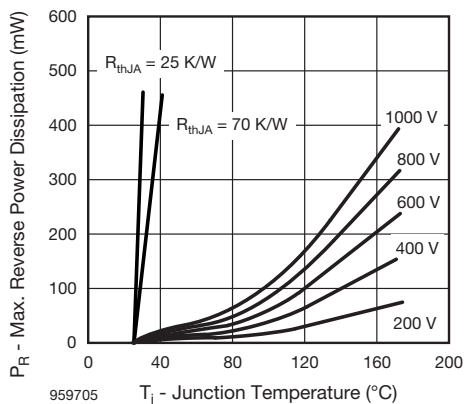


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

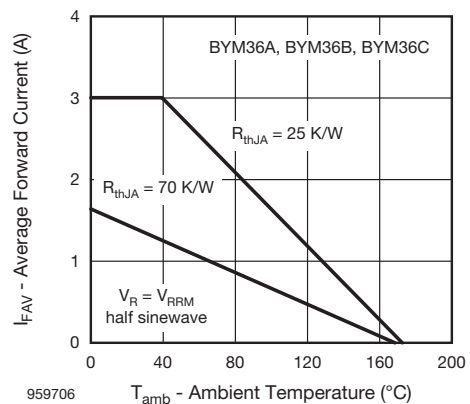


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

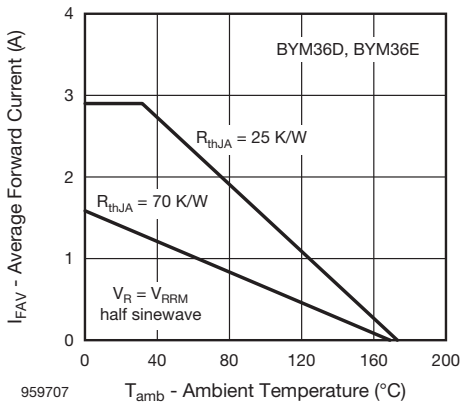


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

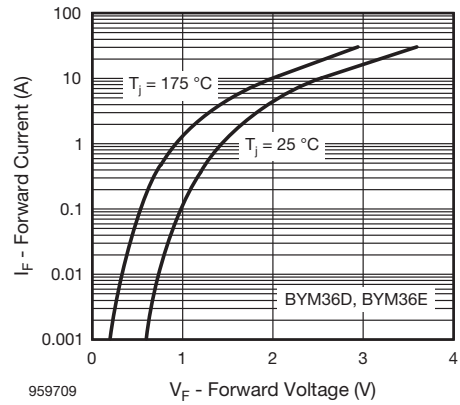


Fig. 6 - Max. Forward Current vs. Forward Voltage

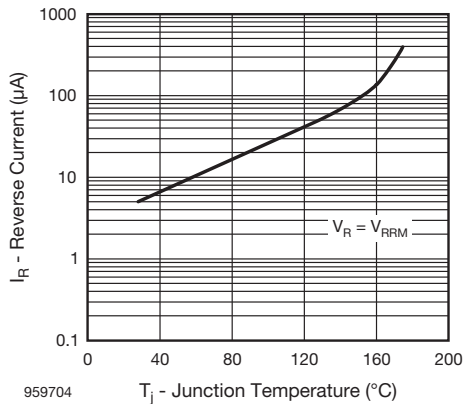


Fig. 4 - Max. Reverse Current vs. Junction Temperature

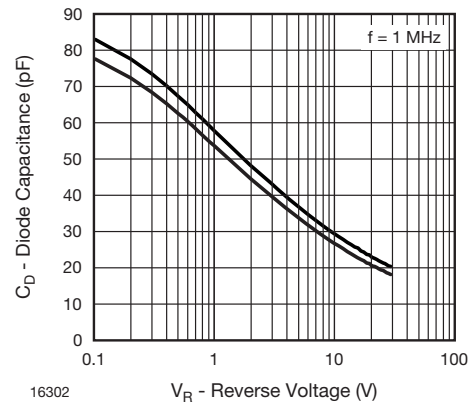


Fig. 7 - Diode Capacitance vs. Reverse Voltage

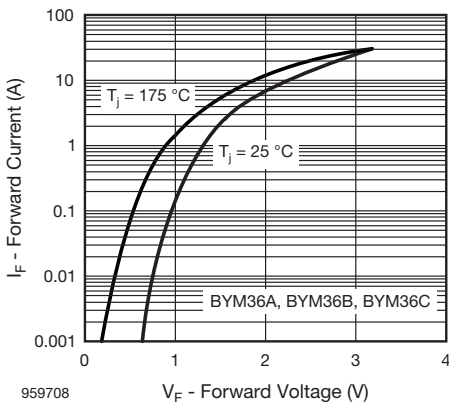
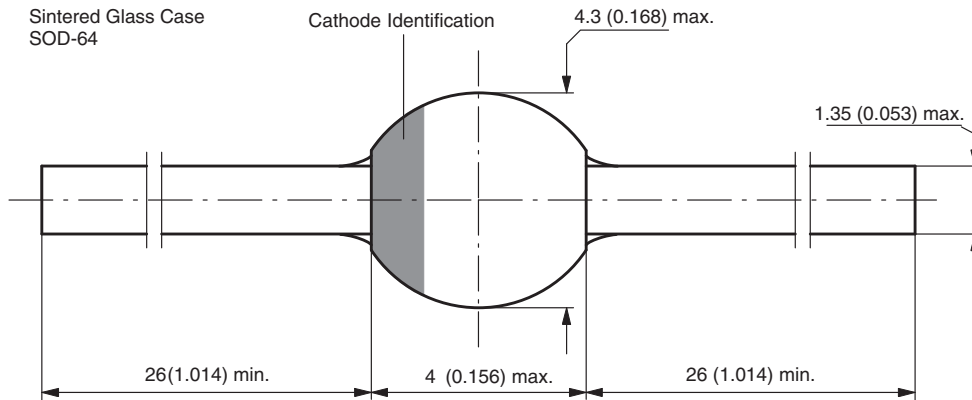


Fig. 5 - Max. Forward Current vs. Forward Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-64



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