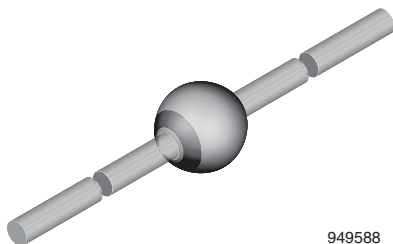




## Fast Avalanche Sinterglass Diode



949588

## 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](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT  
HALOGEN  
FREE

## 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

## 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<br>= 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    | $\mu\text{A}$ |
|                           | $V_R = V_{RRM}, T_j = 150\text{ }^{\circ}\text{C}$          |        | $I_R$       | -    | -    | 100  | $\mu\text{A}$ |
| 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             |

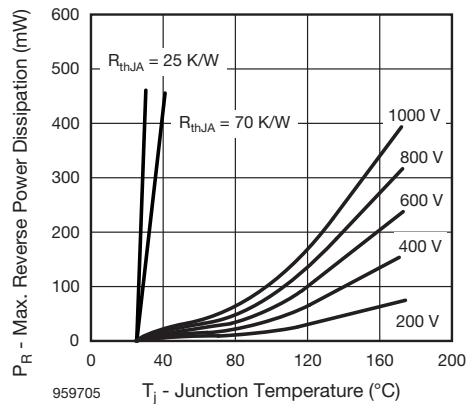
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

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

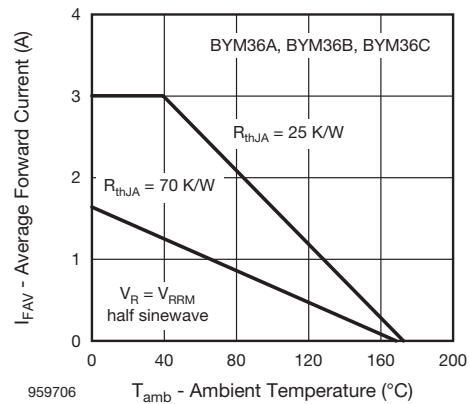


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

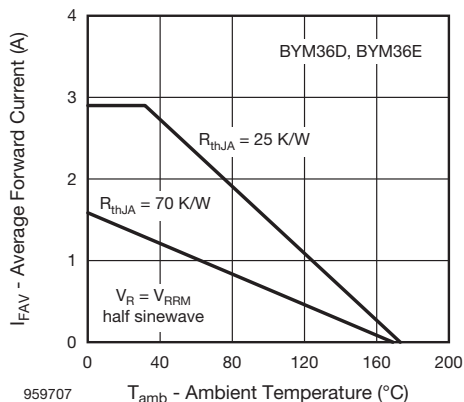


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

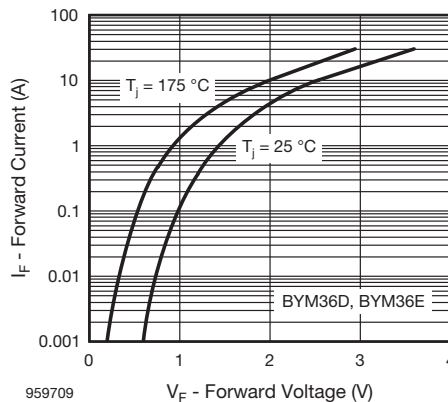


Fig. 6 - Max. Forward Current vs. Forward Voltage

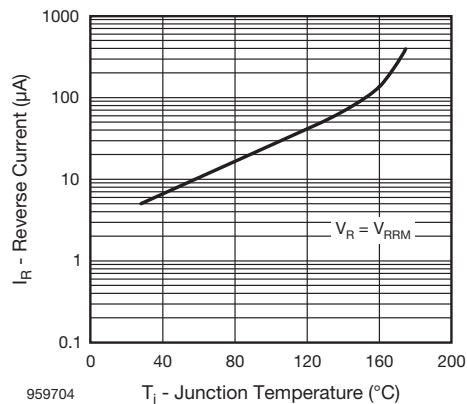


Fig. 4 - Max. Reverse Current vs. Junction Temperature

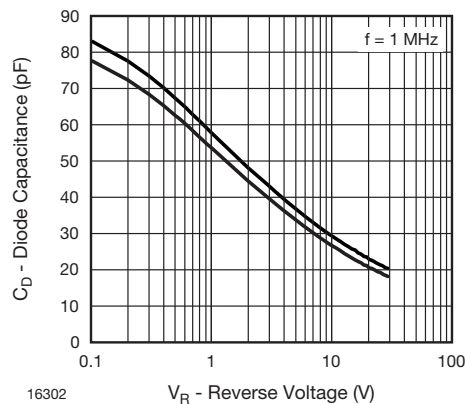


Fig. 7 - Diode Capacitance vs. Reverse Voltage

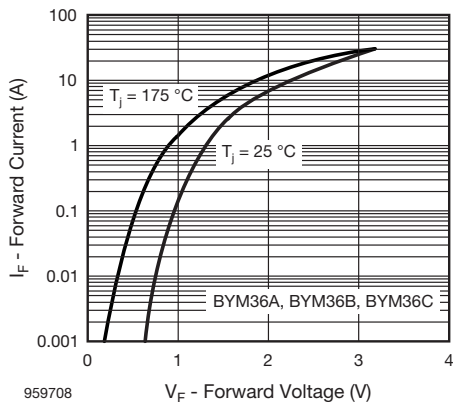
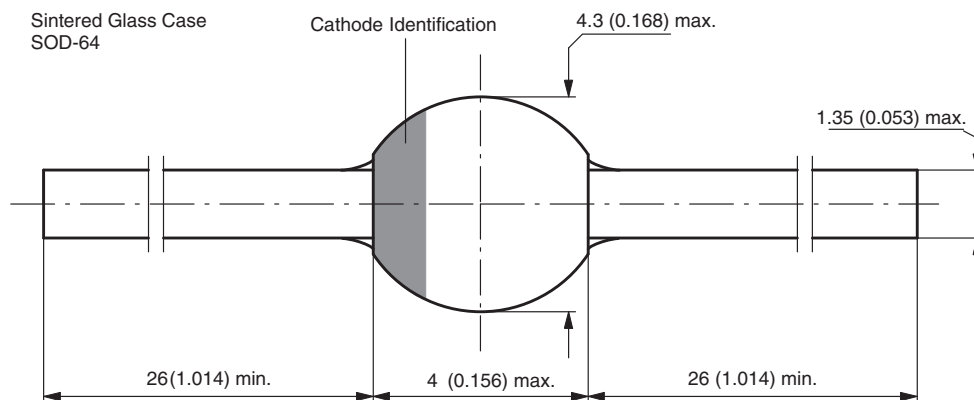


Fig. 5 - Max. Forward Current vs. Forward Voltage



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



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



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