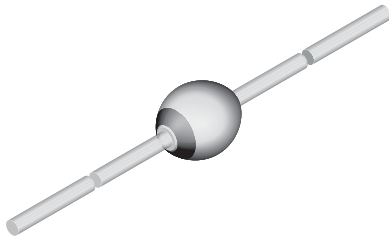


Ultra-Fast Avalanche Sinterglass Diode



949539

FEATURES

- Glass passivated junction
- Hermetically sealed axial-leaded glass envelope
- Low reverse current
- Ultra fast soft recovery switching
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Electronic ballast
- SMPS

MECHANICAL DATA

Case: SOD-57

Terminals: plated axial leads, solderable per MIL-STD-750, method 2026

Polarity: color band denotes cathode end

Mounting position: any

Weight: approx. 369 mg

ORDERING INFORMATION (Example)

| DEVICE NAME | ORDERING CODE | TAPED UNITS | MINIMUM ORDER QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| BYV27-600 | BYV27-600-TR | 5000 per 10" tape and reel | 25 000 |
| BYV27-600 | BYV27-600-TAP | 5000 per ammpack | 25 000 |

PARTS TABLE

| PART | TYPE DIFFERENTIATION | PACKAGE |
|-----------|---|---------|
| BYV27-600 | $V_R = 600\text{ V}$; $I_{F(AV)} = 2\text{ A}$ | SOD-57 |

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 | BYV27-600 | $V_R = V_{RRM}$ | 600 | V |
| Peak forward surge current | $t_p = 10\text{ ms}$, half sine wave | | I_{FSM} | 50 | A |
| Average forward current | $T_{amb} = 50\text{ }^\circ\text{C}$, $I = 10\text{ mm}$ | | $I_{F(AV)}$ | 2 | A |
| Non repetitive reverse avalanche energy | Inductive load, $I_{(BR)R} = 400\text{ mA}$ | | 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} | 45 | K/W |
| | On PC board with spacing 25 mm | R_{thJA} | 100 | 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 | $I_F = 1\text{ A}$ | | V_F | - | - | 1.15 | V |
| | $I_F = 3\text{ A}$ | | V_F | - | - | 1.35 | V |
| | $I_F = 1\text{ A}, T_j = 175\text{ }^{\circ}\text{C}$ | | V_F | - | - | 0.85 | V |
| | $I_F = 3\text{ A}, T_j = 175\text{ }^{\circ}\text{C}$ | | V_F | - | - | 1.15 | V |
| Reverse current | $V_R = V_{RRM}$ | | I_R | - | - | 5 | μA |
| | $V_R = V_{RRM}, T_j = 150\text{ }^{\circ}\text{C}$ | | I_R | - | - | 150 | μA |
| Reverse breakdown voltage | $I_R = 100\text{ }\mu\text{A}$ | BYV27-600 | $V_{(BR)R}$ | 600 | - | - | V |
| Reverse recovery time | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, t_R = 0.25\text{ A}$ | | t_{rr} | - | - | 40 | ns |
| Forward recovery | $I_F = 1\text{ A}$ | | V_{FP} | - | 3.4 | - | V |
| Forward recovery time | $I_F = 1\text{ A}$ | | t_{fr} | - | 250 | - | ns |

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

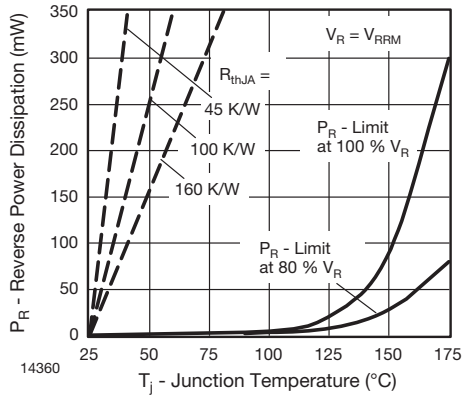


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

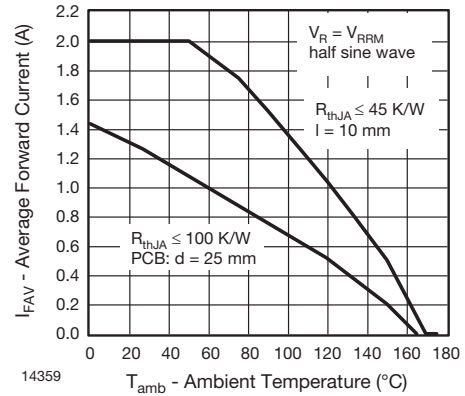


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

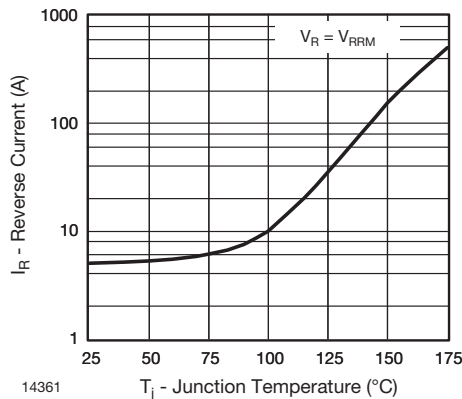


Fig. 2 - Max. Reverse Current vs. Junction Temperature

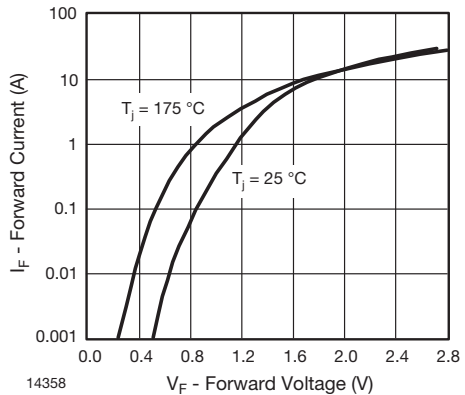


Fig. 4 - Max. Forward Current vs. Forward Voltage

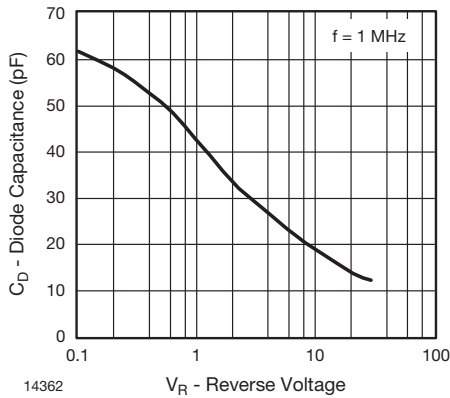
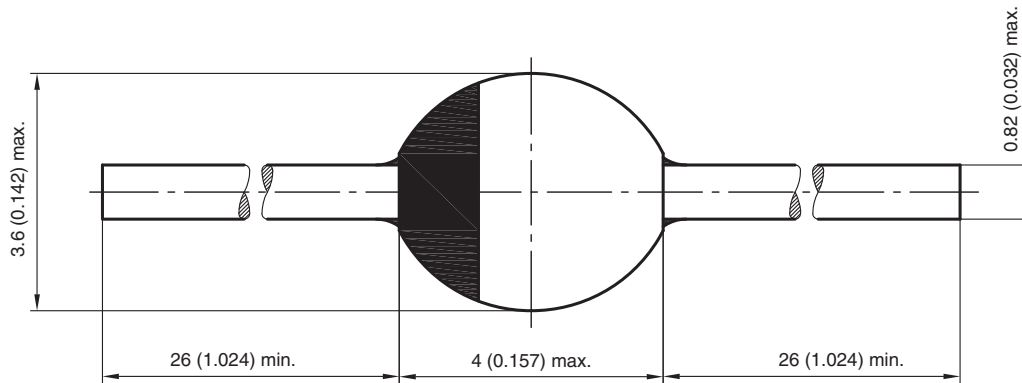


Fig. 5 - Typ. Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-57**



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