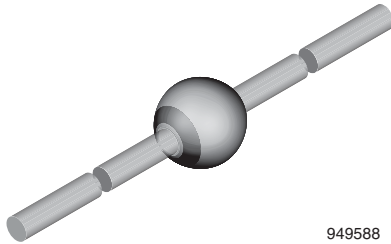




Ultra-Fast Avalanche Sinterglass Diode



949588

FEATURES

- Glass passivated
- Hermetically sealed axial leaded glass envelope
- 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

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 |
|-------------|---------------|----------------------------|------------------------|
| SF5408 | SF5408-TR | 2500 per 10" tape and reel | 12 500 |
| SF5408 | SF5408-TAP | 2500 per ammpack | 12 500 |

PARTS TABLE

| PART | TYPE DIFFERENTIATION | PACKAGE |
|--------|---|---------|
| SF5400 | $V_R = 50 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5401 | $V_R = 100 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5402 | $V_R = 200 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5403 | $V_R = 300 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5404 | $V_R = 400 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5405 | $V_R = 500 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5406 | $V_R = 600 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5407 | $V_R = 800 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | SOD-64 |
| SF5408 | $V_R = 1000 \text{ V}; I_{F(AV)} = 3 \text{ A}$ | 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 | SF5400 | $V_R = V_{RRM}$ | 50 | V |
| | | SF5401 | $V_R = V_{RRM}$ | 100 | V |
| | | SF5402 | $V_R = V_{RRM}$ | 200 | V |
| | | SF5403 | $V_R = V_{RRM}$ | 300 | V |
| | | SF5404 | $V_R = V_{RRM}$ | 400 | V |
| | | SF5405 | $V_R = V_{RRM}$ | 500 | V |
| | | SF5406 | $V_R = V_{RRM}$ | 600 | V |
| | | SF5407 | $V_R = V_{RRM}$ | 800 | V |
| | | SF5408 | $V_R = V_{RRM}$ | 1000 | V |



| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|---|--|------|-----------------------------------|---------------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Peak forward surge current | t _p = 2 ms, half sine wave | | I _{FSM} | 150 | A |
| | t _p = 10 ms, half sine wave | | | 80 | |
| Average forward current | | | I _{F(AV)} | 3 | A |
| Junction and storage temperature range | | | T _j = T _{stg} | - 55 to + 175 | °C |
| Non repetitive reverse avalanche energy | I _{(BR)R} = 0.4 A | | E _R | 10 | mJ |

| MAXIMUM THERMAL RESISTANCE (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|---|--|-------------------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Junction ambient | Lead length l = 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 | SF5400 | V _F | - | - | 1.1 | V |
| | | SF5401 | V _F | - | - | 1.1 | V |
| | | SF5402 | V _F | - | - | 1.1 | V |
| | | SF5403 | V _F | - | - | 1.1 | V |
| | | SF5404 | V _F | - | - | 1.1 | V |
| | | SF5405 | V _F | - | - | 1.7 | V |
| | | SF5406 | V _F | - | - | 1.7 | V |
| | | SF5407 | V _F | - | - | 1.7 | V |
| Reverse current | V _R = V _{RRM} | | I _R | - | - | 5 | μA |
| | V _R = V _{RRM} , T _j = 125 °C | | I _R | - | - | 50 | μA |
| Reverse breakdown voltage | I _R = 100 μA | SF5400 | V _{(BR)R} | 60 | - | - | V |
| | | SF5401 | V _{(BR)R} | 110 | - | - | V |
| | | SF5402 | V _{(BR)R} | 220 | - | - | V |
| | | SF5403 | V _{(BR)R} | 330 | - | - | V |
| | | SF5404 | V _{(BR)R} | 440 | - | - | V |
| | | SF5405 | V _{(BR)R} | 550 | - | - | V |
| | | SF5406 | V _{(BR)R} | 660 | - | - | V |
| | | SF5407 | V _{(BR)R} | 880 | - | - | V |
| Reverse recovery time | I _F = 0.5 A, I _R = 1 A, i _R = 0.25 A | SF5400 | t _{rr} | - | - | 50 | ns |
| | | SF5401 | t _{rr} | - | - | 50 | ns |
| | | SF5402 | t _{rr} | - | - | 50 | ns |
| | | SF5403 | t _{rr} | - | - | 50 | ns |
| | | SF5404 | t _{rr} | - | - | 50 | ns |
| | | SF5405 | t _{rr} | - | - | 75 | ns |
| | | SF5406 | t _{rr} | - | - | 75 | ns |
| | | SF5407 | t _{rr} | - | - | 75 | ns |
| SF5408 | t _{rr} | - | - | 75 | ns | | |

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

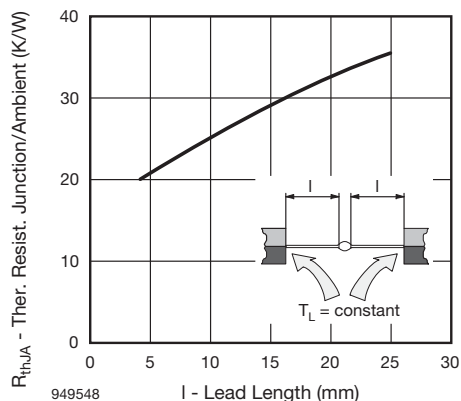


Fig. 1 - Max. Thermal Resistance vs. Lead Length

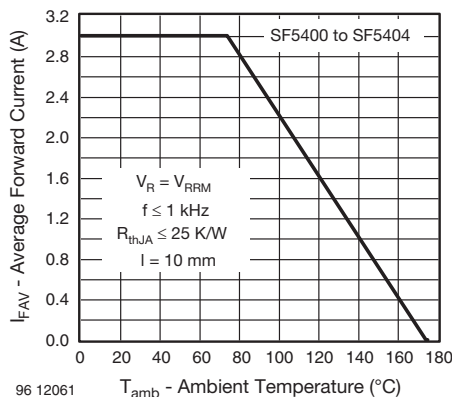


Fig. 4 - Max. Average Forward Current vs. Ambient Temperature

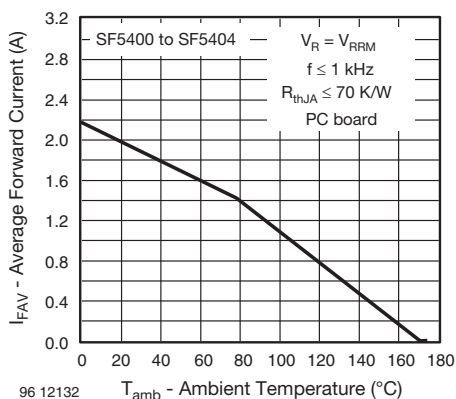


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

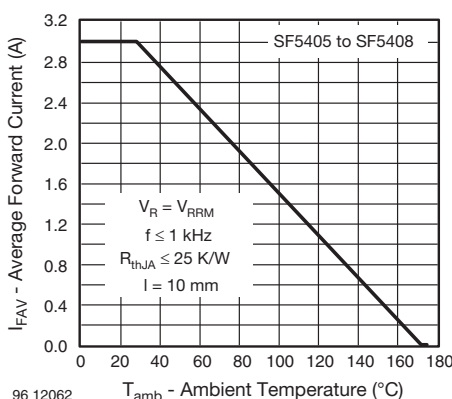


Fig. 5 - Max. Average Forward Current vs. Ambient Temperature

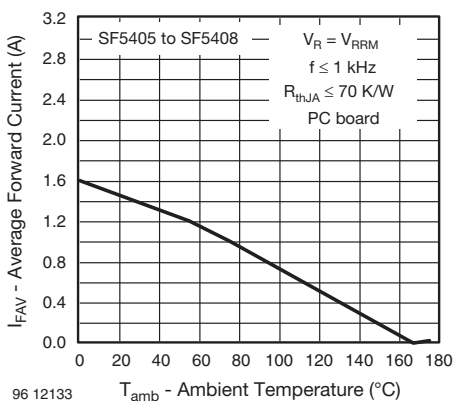


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

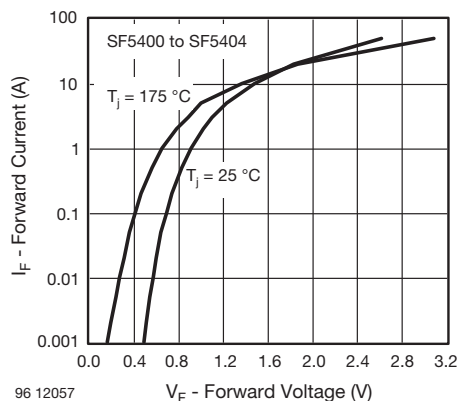


Fig. 6 - Max. Forward Current vs. Forward Voltage

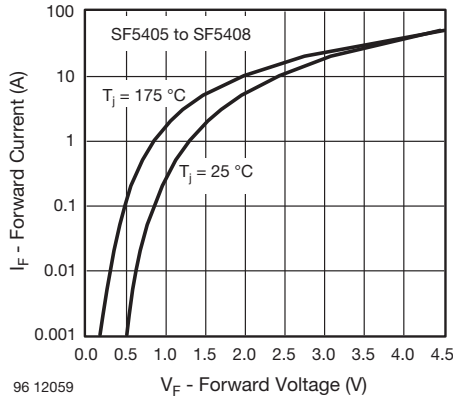


Fig. 7 - Max. Forward Current vs. Forward Voltage

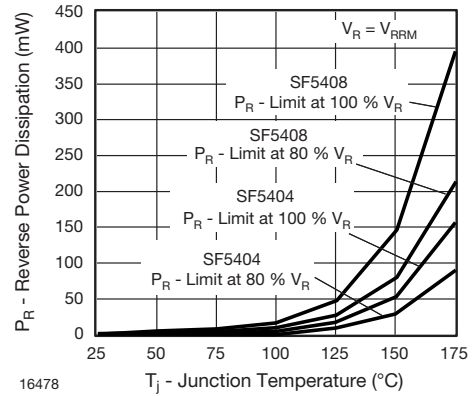


Fig. 9 - Max. Reverse Power Dissipation vs. Junction Temperature

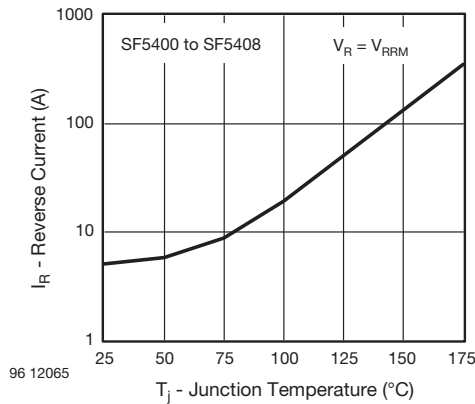


Fig. 8 - Max. Reverse Current vs. Junction Temperature

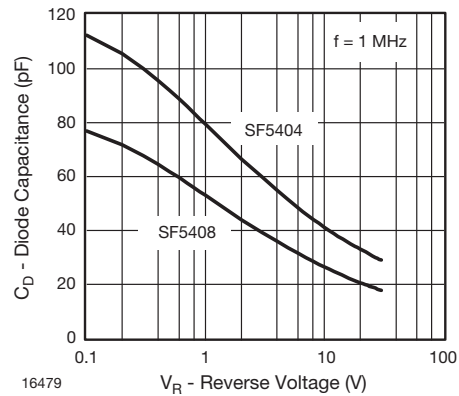
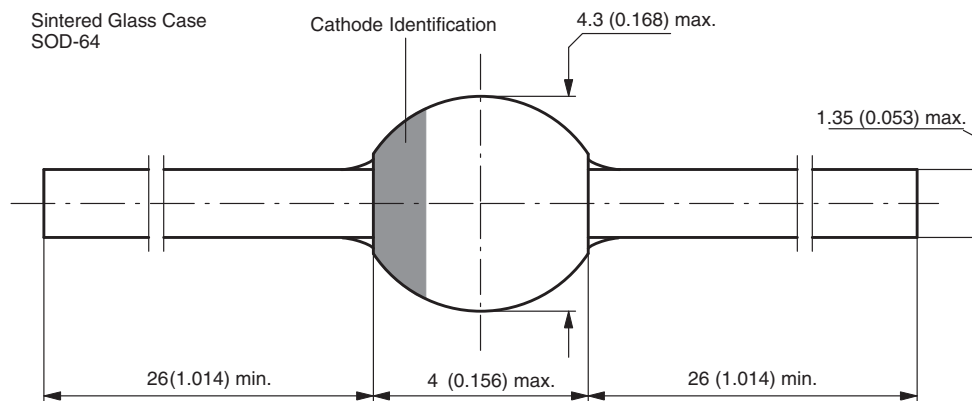


Fig. 10 - Diode Capacitance vs. Reverse Voltage

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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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331