



Small Signal Schottky Diode



FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

MECHANICAL DATA

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

APPLICATIONS

- HF-detector
- Protection circuit
- Small battery charger
- AC-DC/DC-DC converters

| PARTS TABLE | | | | |
|-------------|-----------------------|----------------------------|-----------------------|---------------|
| PART | TYPE DIFFERENTIATION | ORDERING CODE | INTERNAL CONSTRUCTION | REMARKS |
| LL103A | V _R = 40 V | LL103A-GS08 or LL103A-GS18 | Single diode | Tape and reel |
| LL103B | V _R = 30 V | LL103B-GS08 or LL103B-GS18 | Single diode | Tape and reel |
| LL103C | V _R = 20 V | LL103C-GS08 or LL103C-GS18 | Single diode | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|---|---------------------------------------|--------|------------------|-------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Reverse voltage | | LL103A | V _R | 40 | V |
| | | LL103B | V _R | 30 | V |
| | | LL103C | V _R | 20 | V |
| Forward continuous current | | | I _{FAV} | 200 | mA |
| Peak forward surge current | t _p = 300 μs, square pulse | | I _{FSM} | 15 | A |
| Power dissipation | | | P _{tot} | 400 | mW |

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|--|---------------------------------------|-------------------|---------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air | On PC board 50 mm x 50 mm x 1.6 mm | R _{thJA} | 250 | K/W |
| Junction temperature | | T _j | 125 | °C |
| Storage temperature range | | T _{stg} | - 65 to + 150 | °C |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | |
|--|--|--------|------------|------|------|------|---------------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | $I_R = 50\text{ }\mu\text{A}$ | LL103A | $V_{(BR)}$ | 40 | | | V |
| | | LL103B | $V_{(BR)}$ | 30 | | | V |
| | | LL103C | $V_{(BR)}$ | 20 | | | V |
| Leakage current | $V_R = 30\text{ V}$ | LL103A | I_R | | | 5 | μA |
| | $V_R = 20\text{ V}$ | LL103B | I_R | | | 5 | μA |
| | $V_R = 10\text{ V}$ | LL103C | I_R | | | 5 | μA |
| Forward voltage drop | $I_F = 20\text{ mA}$ | | V_F | | | 370 | mV |
| | $I_F = 200\text{ mA}$ | | V_F | | | 600 | mV |
| Diode capacitance | $V_R = 0\text{ V}, f = 1\text{ MHz}$ | | C_D | | 50 | | pF |
| Reverse recovery time | $I_F = I_R = 50\text{ mA to } 200\text{ mA}$, recover to $0.1 I_R$ | | t_{rr} | | 10 | | ns |

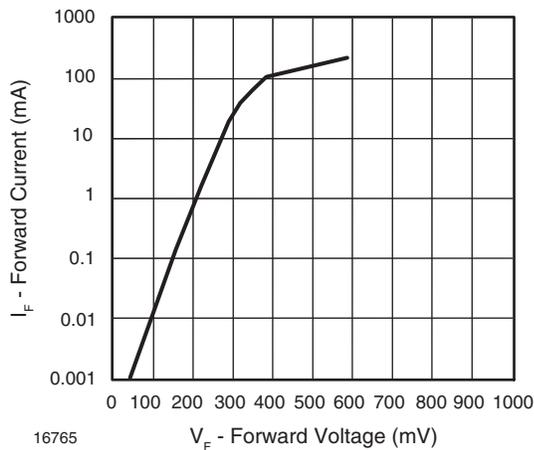
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

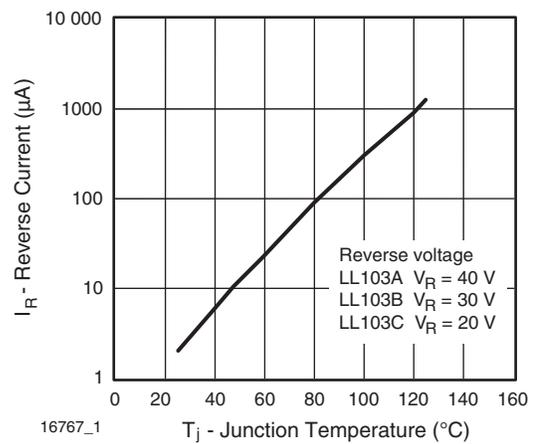


Fig. 3 - Reverse Current vs. Junction Temperature

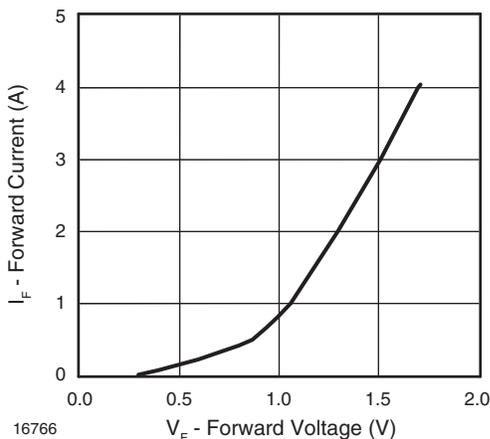


Fig. 2 - Forward Current vs. Forward Voltage

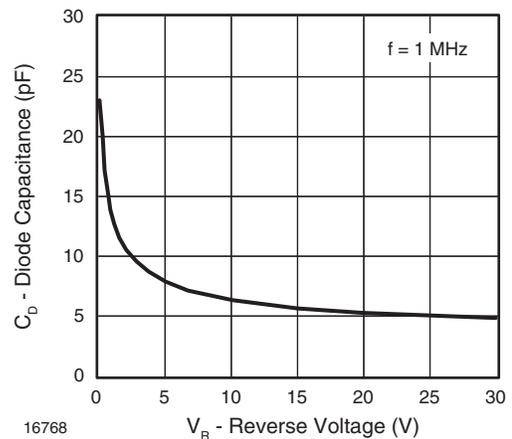


Fig. 4 - Diode Capacitance vs. Reverse Voltage

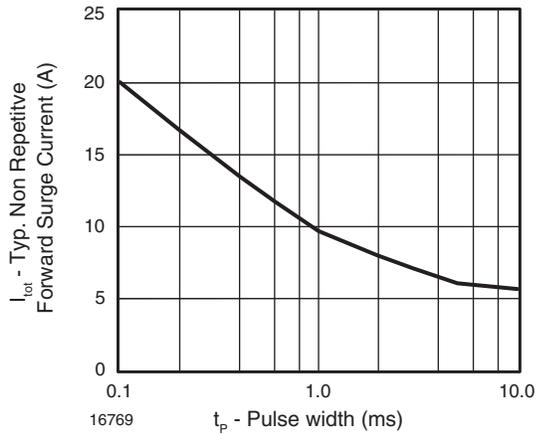
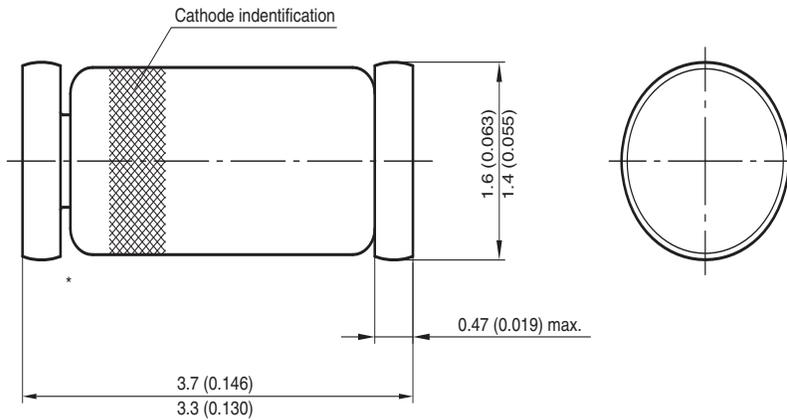
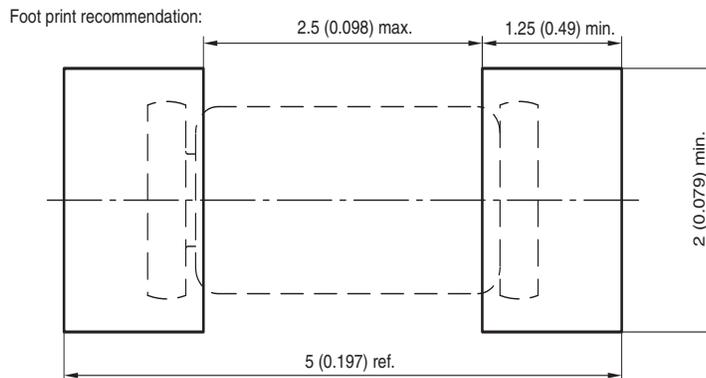


Fig. 5 - Typical Non-Repetitive Forward Surge Current vs. Pulse Width

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF SOD-80**



* The gap between plug and glass can be either on cathode or anode side



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