



**THE DATASHEET OF  
LS103B-GS08**





## Small Signal Schottky Diodes



**DESIGN SUPPORT TOOLS** click logo to get started



### MECHANICAL DATA

**Case:** QuadroMELF (SOD-80)

**Weight:** approx. 34 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

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



**RoHS**  
COMPLIANT

### APPLICATIONS

- HF-detector
- Protection circuit
- Small battery charger
- AC/DC / DC/DC converter for notebooks

| PARTS TABLE |                      |                            |                       |               |
|-------------|----------------------|----------------------------|-----------------------|---------------|
| PART        | TYPE DIFFERENTIATION | ORDERING CODE              | CIRCUIT CONFIGURATION | REMARKS       |
| LS103A      | $V_R = 40\text{ V}$  | LS103A-GS18 or LS103A-GS08 | Single                | Tape and reel |
| LS103B      | $V_R = 30\text{ V}$  | LS103B-GS18 or LS103B-GS08 | Single                | Tape and reel |
| LS103C      | $V_R = 20\text{ V}$  | LS103C-GS18 or LS103C-GS08 | Single                | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified) |   |        |           |       |      |
|---|---|--------|-----------|-------|------|
| PARAMETER   | TEST CONDITION                                | PART   | SYMBOL    | VALUE | UNIT |
| Reverse voltage   |   | LS103A | $V_R$     | 40    | V    |
|   |   | LS103B | $V_R$     | 30    | V    |
|   |   | LS103C | $V_R$     | 20    | V    |
| Peak forward surge current  | $t_p = 300\text{ }\mu\text{s}$ , square pulse |        | $I_{FSM}$ | 15    | A    |
| Power dissipation   |   |        | $P_{tot}$ | 400   | mW   |

| THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified) |                                       |            |             |                  |
|--|---------------------------------------|------------|-------------|------------------|
| PARAMETER  | TEST CONDITION                        | SYMBOL     | VALUE       | UNIT             |
| Thermal resistance junction to ambient air   | On PC board<br>50 mm x 50 mm x 1.6 mm | $R_{thJA}$ | 250         | K/W              |
| Junction temperature   |                                       | $T_j$      | 125         | $^\circ\text{C}$ |
| Storage temperature range  |                                       | $T_{stg}$  | -65 to +150 | $^\circ\text{C}$ |



| ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |  |        |                   |      |      |      |      |
|---|--|--------|-------------------|------|------|------|------|
| PARAMETER   | TEST CONDITION   | SYMBOL | SYMBOL            | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage   | I <sub>R</sub> = 10 μA   | LS103A | V <sub>(BR)</sub> | 40   |      |      | V    |
|   |  | LS103B | V <sub>(BR)</sub> | 30   |      |      | V    |
|   |  | LS103C | V <sub>(BR)</sub> | 20   |      |      | V    |
| Leakage current   | V <sub>R</sub> = 30 V  | LS103A | I <sub>R</sub>    |      |      | 5    | μA   |
|   | V <sub>R</sub> = 20 V  | LS103B | I <sub>R</sub>    |      |      | 5    | μA   |
|   | V <sub>R</sub> = 10 V  | LS103C | I <sub>R</sub>    |      |      | 5    | μA   |
| Forward voltage drop  | I <sub>F</sub> = 20 mA   |        | V <sub>F</sub>    |      |      | 370  | mV   |
|   | I <sub>F</sub> = 200 mA  |        | V <sub>F</sub>    |      |      | 600  | mV   |
| Diode capacitance   | V <sub>R</sub> = 0 V, f = 1 MHz  |        | C <sub>D</sub>    |      | 50   |      | pF   |
| Reverse recovery time   | I <sub>F</sub> = I <sub>R</sub> = 50 mA to 200 mA, recover to 0.1 I <sub>R</sub> |        | t <sub>rr</sub>   |      | 10   |      | ns   |

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

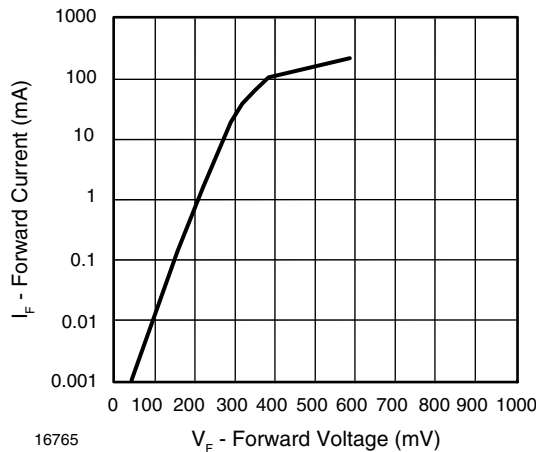


Fig. 1 - Forward Current vs. Forward Voltage

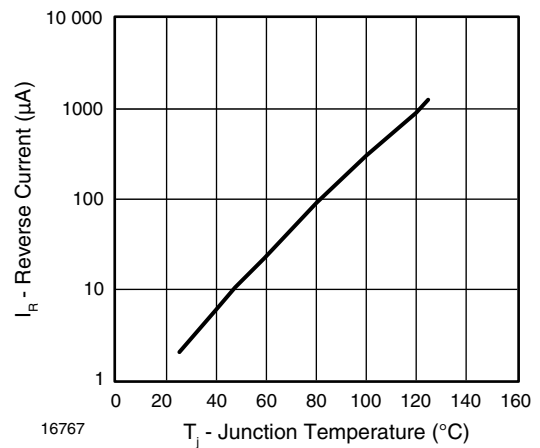


Fig. 3 - Reverse Current vs. Junction Temperature

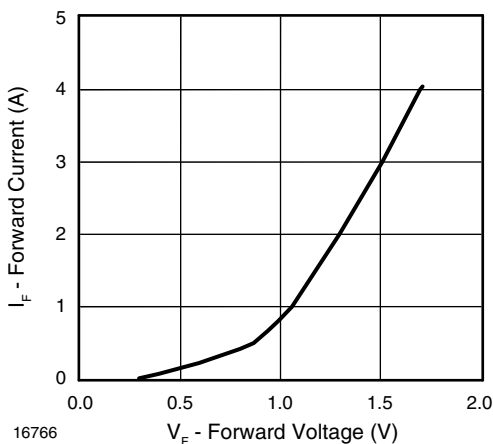


Fig. 2 - Forward Current vs. Forward Voltage

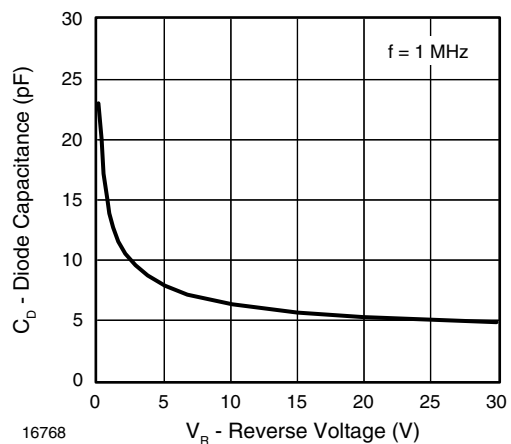


Fig. 4 - Diode Capacitance vs. Reverse Voltage

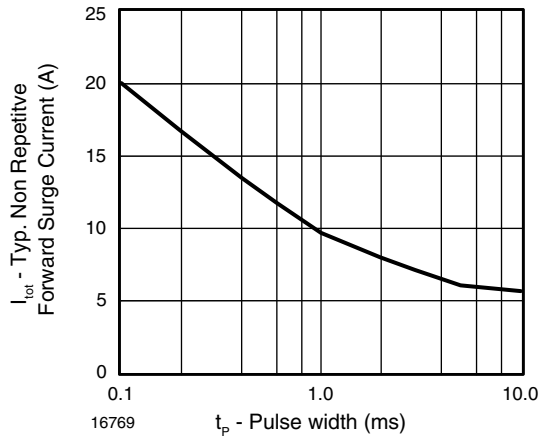
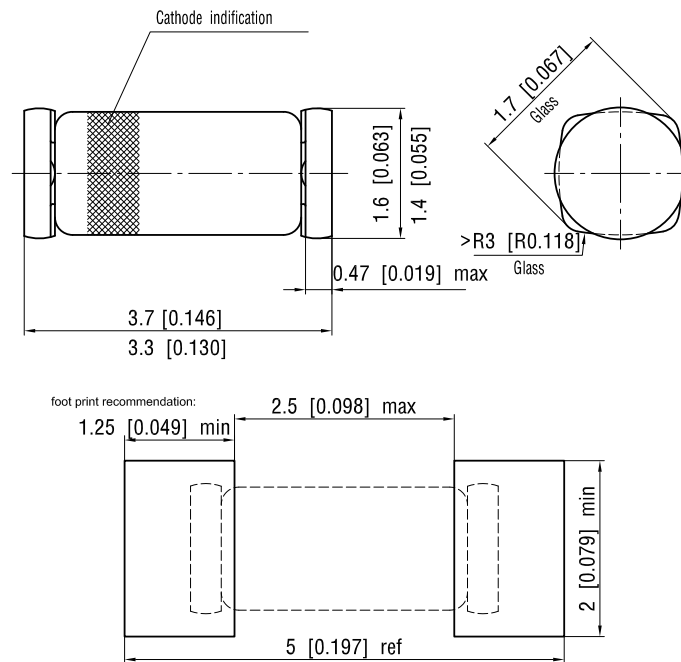


Fig. 5 - Typical Non-Repetitive Forward Surge Current vs. Pulse Width

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



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