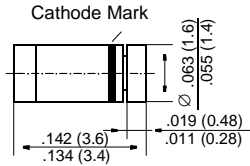


# LL103A THRU LL103C


## Schottky Diodes

### MiniMELF



Dimensions in inches and (millimeters)

### FEATURES

- ◆ For general purpose applications.
- ◆ The LL103A, B, C is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring. 
- ◆ The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications. Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems.
- ◆ This diode is also available in DO-35 case with the type designation SD103A, B, C, and in the SOD-123 case with type designation SD103AW, SD103BW, SD103CW.

### MECHANICAL DATA

**Case:** MiniMELF Glass Case SOD-80C

**Weight:** approx. 0.05 g

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

|   | Symbol  | Value                               | Unit        |
|---|---|-------------------------------------|-------------|
| Peak Inverse Voltage  | <b>LL103A</b><br><b>LL103B</b><br><b>LL103C</b> | $V_{RRM}$<br>$V_{RRM}$<br>$V_{RRM}$ | V<br>V<br>V |
| Power Dissipation (Infinite Heatsink)<br>$T_C = 3/8''$ from Body<br>derates at 4 mW/°C to 0 at 125 °C | $P_{tot}$                                       | 400 <sup>1)</sup>                   | mW          |
| Junction Temperature  | $T_j$   | 125                                 | °C          |
| Storage Temperature Range   | $T_S$   | -55 to +150                         | °C          |
| Single Cycle Surge<br>60-Hz Sine Wave   | $I_{FSM}$                                       | 15                                  | A           |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

# LL103A THRU LL103C

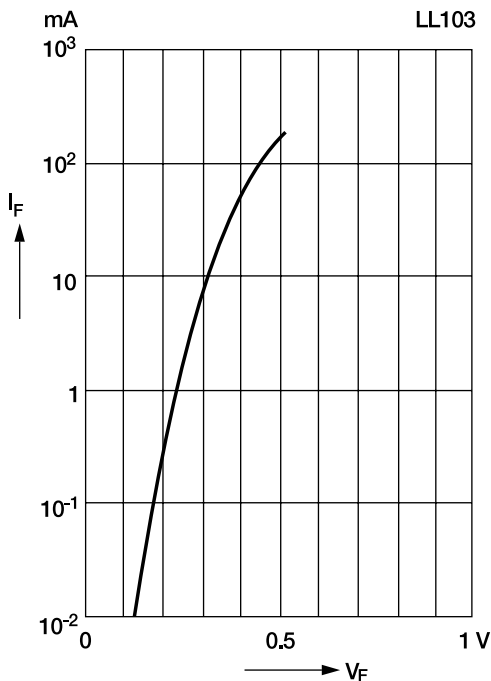
## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

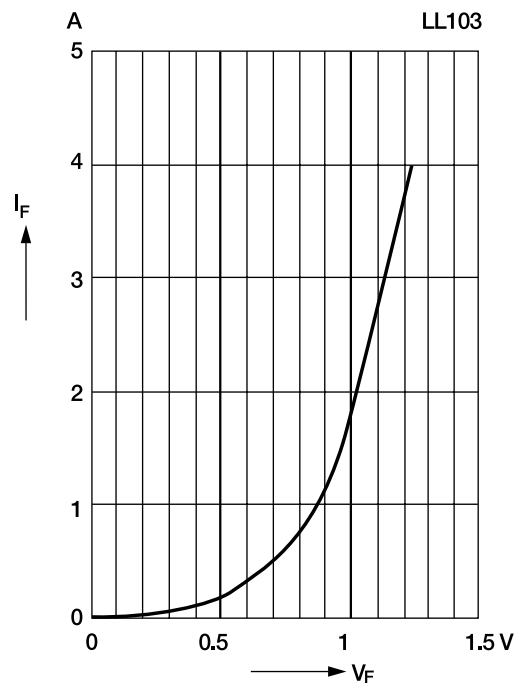
|  | Symbol                 | Min. | Typ. | Max. | Unit          |
|--|------------------------|------|------|------|---------------|
| Leakage Current<br>at $V_R = 30\text{ V}$<br>at $V_R = 20\text{ V}$<br>at $V_R = 10\text{ V}$    | <b>LL103A</b><br>$I_R$ | –    | –    | 5    | $\mu\text{A}$ |
|  | <b>LL103B</b><br>$I_R$ | –    | –    | 5    | $\mu\text{A}$ |
|  | <b>LL103C</b><br>$I_R$ | –    | –    | 5    | $\mu\text{A}$ |
| Forward Voltage Drop<br>at $I_F = 20\text{ mA}$<br>at $I_F = 200\text{ mA}$                      | $V_F$                  | –    | –    | 0.37 | V             |
|  | $V_F$                  | –    | –    | 0.6  | V             |
| Junction Capacitance<br>at $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$                               | $C_{\text{tot}}$       | –    | 50   | –    | pF            |
| Reverse Recovery Time<br>at $I_F = I_R = 50\text{ mA}$ to $200\text{ mA}$ , recover to $0.1 I_R$ | $t_{\text{rr}}$        | –    | 10   | –    | ns            |

## RATINGS AND CHARACTERISTIC CURVES LL103A THRU LL103C

Typical variation of fwd. current vs. fwd. voltage for primary conduction through the Schottky barrier



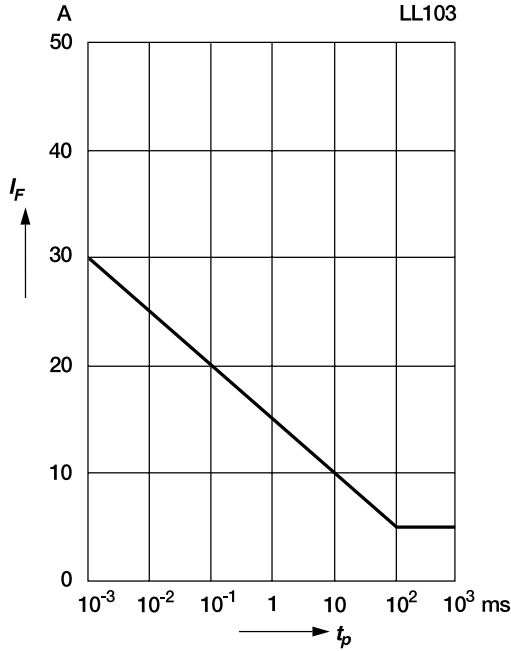
Typical high current forward conduction curve  
 $t_p = 300\text{ ms}$ , duty cycle = 2%



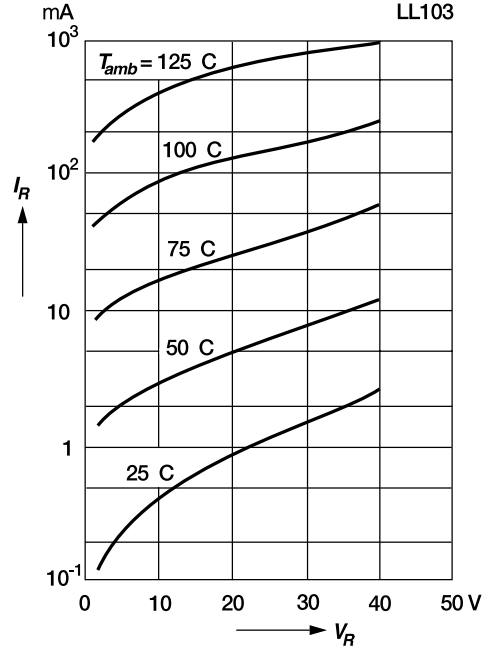
# RATINGS AND CHARACTERISTIC CURVES LL103A THRU LL103C

**Typical non repetitive forward surge current versus pulse width**

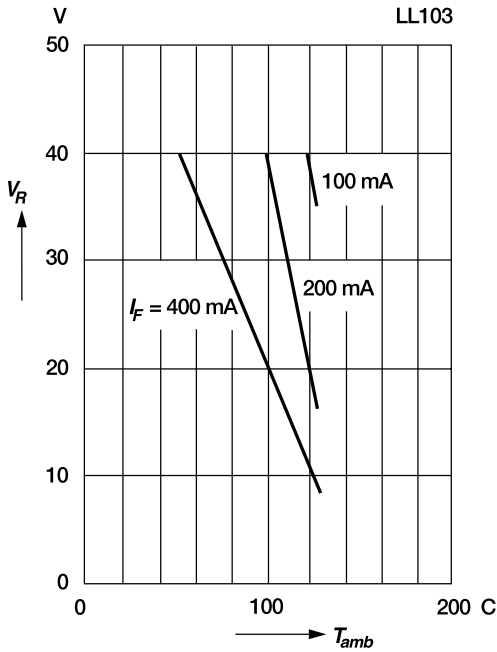
Rectangular pulse



**Typical variation of reverse current at various temperatures**



**Blocking voltage deration versus temperature at various average forward currents**



**Typical capacitance versus reverse voltage**

