

# LL103A - LL103C

## FEATURES :

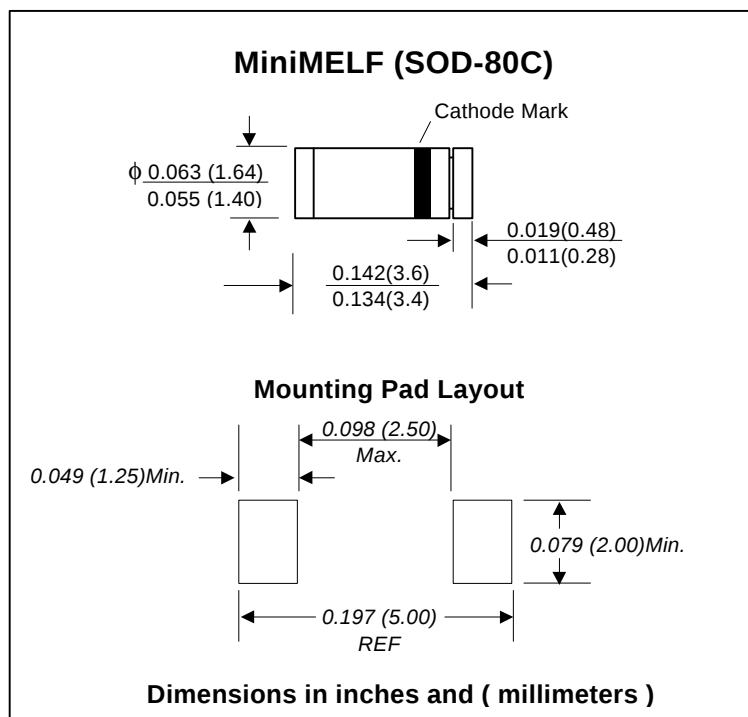
- For general purpose applications
- The LL103A, B, C series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching 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.
- These diodes are also available in the DO-35 case with type designation SD103A, B, C

## MECHANICAL DATA :

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

**Weight:** approx. 0.05g

## SCHOTTKY BARRIER DIODES



## Maximum Ratings and Thermal Characteristics (Rating at 25 °C ambient temperature unless otherwise specified.)

| Parameter                                  | Symbol          | Value              | Unit |
|--------------------------------------------|-----------------|--------------------|------|
| Repetitive Peak Reverse Voltage            | $V_{RRM}$       | 40<br>30<br>20     | V    |
| Single Cycle Surge 60 Hz Sine Wave         | $I_{FSM}$       | 15                 | A    |
| Power Dissipation (Infinite Heatsink)      | PD              | 400 <sup>(1)</sup> | mW   |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 300 <sup>(1)</sup> | °C/W |
| Junction Temperature                       | $T_J$           | 125                | °C   |
| Storage temperature range                  | $T_S$           | -55 to + 150       | °C   |

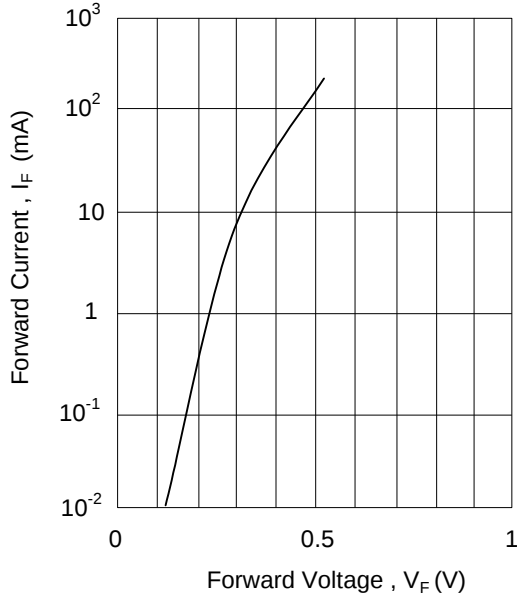
Note: (1) Valid provided that electrodes are kept at ambient temperature.

## Electrical Characteristics ( $T_J = 25^\circ\text{C}$ unless otherwise noted)

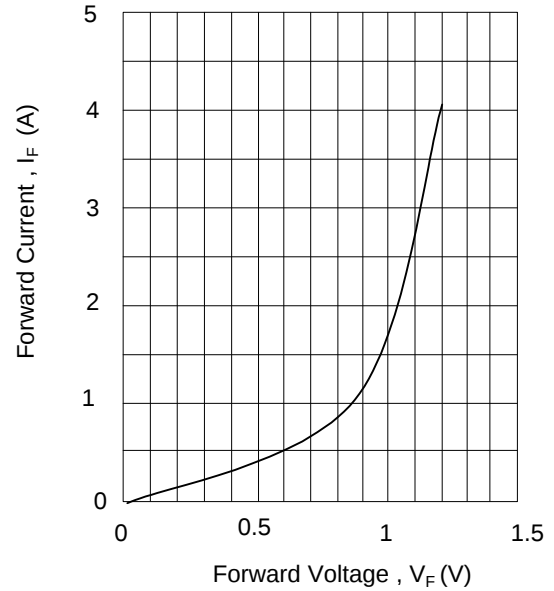
| Parameter             | Symbol | Test Condition                                                    | Min | Typ | Max         | Unit          |
|-----------------------|--------|-------------------------------------------------------------------|-----|-----|-------------|---------------|
| Reverse Current       | $I_R$  | $V_R = 30\text{ V}$<br>$V_R = 20\text{ V}$<br>$V_R = 10\text{ V}$ | -   | -   | 5<br>5<br>5 | $\mu\text{A}$ |
| Forward Voltage Drop  | $V_F$  | $I_F = 20\text{mA}$<br>$I_F = 200\text{mA}$                       | -   | -   | 0.37<br>0.6 | V             |
| Diode Capacitance     | Cd     | $V_R = 0\text{ V}, f = 1\text{MHz}$                               | -   | 50  | -           | pF            |
| Reverse Recovery Time | Trr    | $I_F = I_R = 5\text{mA to } 200\text{mA}$<br>recover to $0.1I_R$  | -   | 10  | -           | ns            |

## RATING AND CHARACTERISTIC CURVES ( LL103A - LL103C )

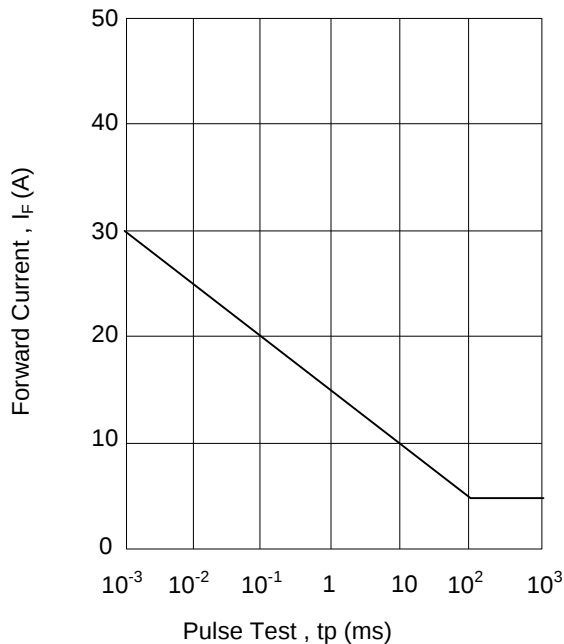
Typical variation of forward current and forward voltage for primary conduction through the schottky barrier



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



Typical non repetitive forward surge current versus pulse width  
Rectangular pulse



Typical variation of reverse current at various temperatures

