

**VOLTAGE RANGE: 20 - 40V**  
**CURRENT: 350 mA**

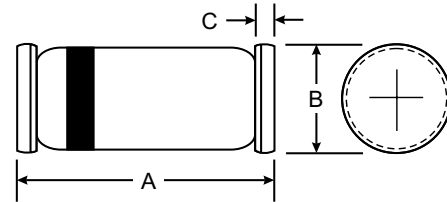


### Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Low Reverse Recovery Time
- Low Reverse Capacitance

### Mechanical Data

- Case: SOD-80/LL34, Glass
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.05 grams (approx.)



| LL34/ SOD-80         |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.70 |
| B                    | 1.30 | 1.60 |
| C                    | 0.28 | 0.50 |
| All Dimensions in mm |      |      |

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic   | Symbol              | MCL103A     | MCL103B | MCL103C | Unit |
|--|---------------------|-------------|---------|---------|------|
| Peak Repetitive Reverse Voltage                                    | V <sub>RRM</sub>    | 40          | 30      | 20      | V    |
| Working Peak Reverse Voltage                                       | V <sub>RWM</sub>    |             |         |         |      |
| DC Blocking Voltage  | V <sub>R</sub>      |             |         |         |      |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub> | 28          | 21      | 14      | V    |
| Forward Continuous Current   | I <sub>FM</sub>     | 350         |         |         | mA   |
| Repetitive Peak Forward Current @ t ≤ 1.0s                         | I <sub>FRM</sub>    | 1.0         |         |         | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3 ms Half Sine Wave | I <sub>FSM</sub>    | 15          |         |         | A    |
| Power Dissipation  | P <sub>d</sub>      | 400         |         |         | mW   |
| Thermal Resistance, Junction to Ambient Air                        | R <sub>θJA</sub>    | 300         |         |         | K/W  |
| Operating Junction Temperature                                     | T <sub>j</sub>      | 125         |         |         | °C   |
| Storage Temperature Range  | T <sub>STG</sub>    | -55 to +150 |         |         | °C   |

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic               | Symbol             | Min            | Typ | Max          | Unit | Test Condition   |
|------------------------------|--------------------|----------------|-----|--------------|------|--|
| Reverse Breakdown Voltage    | V <sub>(BR)R</sub> | 40<br>30<br>20 | —   | —            | V    | I <sub>RS</sub> = 100μA (pulsed)   |
| Maximum Forward Voltage Drop | V <sub>FM</sub>    | —              | —   | 0.37<br>0.60 | V    | I <sub>F</sub> = 20mA<br>I <sub>F</sub> = 200mA  |
| Maximum Peak Reverse Current | I <sub>RM</sub>    | —              | —   | 5.0          | μA   | V <sub>R</sub> = 30V<br>V <sub>R</sub> = 20V<br>V <sub>R</sub> = 10V   |
| Junction Capacitance         | C <sub>j</sub>     | —              | 50  | —            | pF   | V <sub>R</sub> = 0V, f = 1.0MHz  |
| Reverse Recovery Time        | t <sub>rr</sub>    | —              | 10  | —            | ns   | I <sub>F</sub> = I <sub>R</sub> = 50mA to 200mA,<br>I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω |



## RATINGS AND CHARACTERISTIC CURVES MCL103A THRU MCL103C

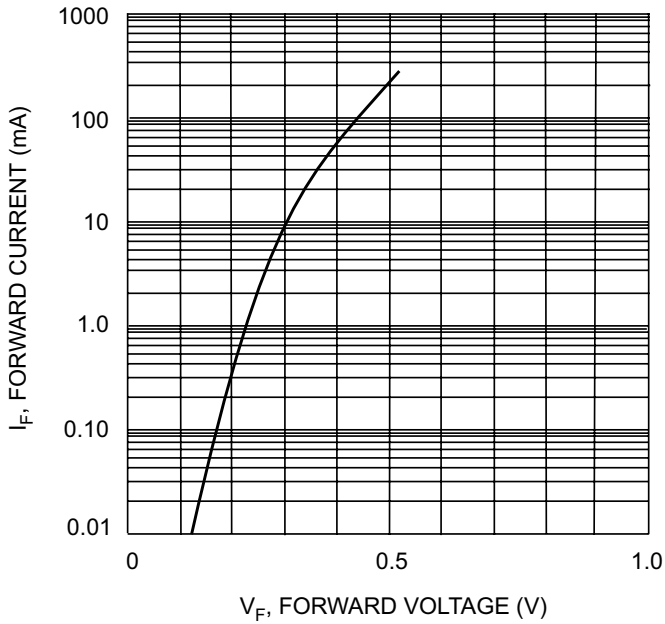


Fig. 1 Typical Forward Characteristics

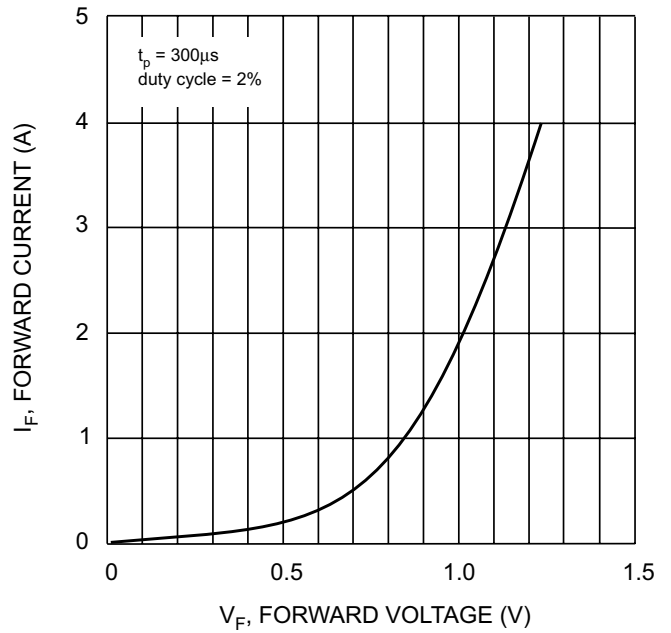


Fig. 2 Typical High Current Fwd Characteristics

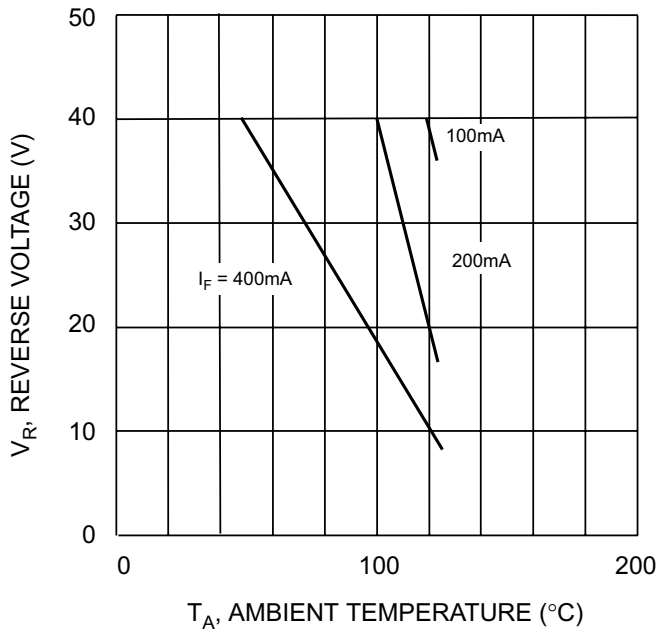


Fig. 3 Blocking Voltage Derating Curves

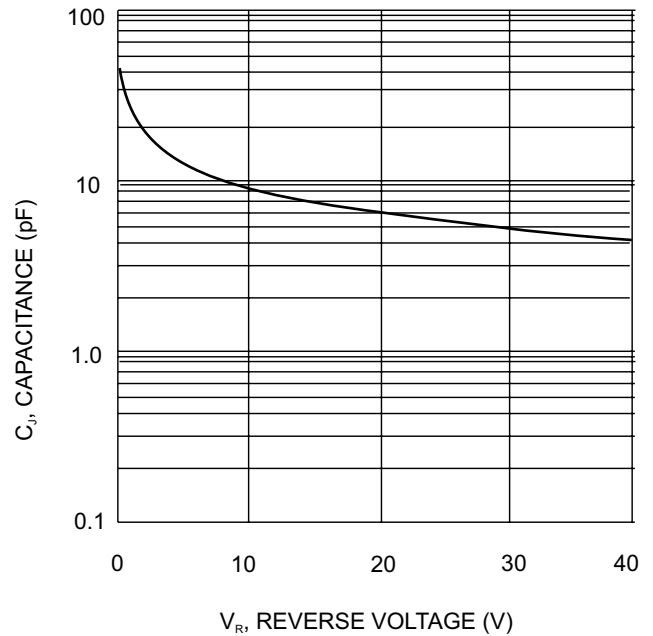


Fig. 4 Typ. Junction Capacitance vs Reverse Voltage