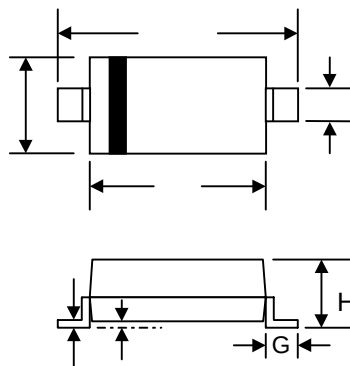


### Features

- Guardring for Stress Protection
- Low Forward Voltage
- 125°C Operating Junction Temperature
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Package Designed for Optimal Automated Board Assembly
- ESD Ratings: Machine Model, C  
Human Body Model, 3B
- Pb-Free Packages are Available
- We declare that the material of product compliance with RoHS requirements.



| SOD-123              |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.6  | 3.9  |
| B                    | 2.5  | 2.8  |
| C                    | 1.4  | 1.8  |
| D                    | 0.5  | 0.7  |
| E                    | —    | 0.2  |
| G                    | 0.4  | —    |
| H                    | 0.95 | 1.35 |
| J                    | —    | 0.12 |
| All Dimensions in mm |      |      |

### Mechanical Characteristics

- Device Marking: 2L
- Polarity Designator: Cathode Band
- Weight: 11.7 mg (approximately)
- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes:  
260°C Max. for 10 Seconds

### MAXIMUM RATINGS

| Rating                                                                                                  | Symbol                          | Value      | Unit             |
|---------------------------------------------------------------------------------------------------------|---------------------------------|------------|------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                  | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 20         | V                |
| Average Rectified Forward Current (At Rated $V_R$ , $T_L = 115^\circ\text{C}$ )                         | $I_O$                           | 1.0        | A                |
| Peak Repetitive Forward Current<br>(At Rated $V_R$ , Square Wave, 100 kHz, $T_L = 110^\circ\text{C}$ )  | $I_{FRM}$                       | 2.0        | A                |
| Non-Repetitive Peak Surge Current<br>(Non-Repetitive peak surge current, halfwave, single phase, 60 Hz) | $I_{FSM}$                       | 5.5        | A                |
| Storage Temperature                                                                                     | $T_{stg}$                       | -55 to 150 | $^\circ\text{C}$ |
| Operating Junction Temperature                                                                          | $T_J$                           | -55 to 125 | $^\circ\text{C}$ |
| Voltage Rate of Change (Rated $V_R$ , $T_J = 25^\circ\text{C}$ )                                        | $dv/dt$                         | 10,000     | V/ $\mu\text{s}$ |

### THERMAL CHARACTERISTICS

| Rating                                            | Symbol           | Value | Unit               |
|---------------------------------------------------|------------------|-------|--------------------|
| Thermal Resistance – Junction-to-Lead (Note 1)    | $R_{\theta j l}$ | 26    | $^\circ\text{C/W}$ |
| Thermal Resistance – Junction-to-Lead (Note 2)    | $R_{\theta j l}$ | 21    | $^\circ\text{C/W}$ |
| Thermal Resistance – Junction-to-Ambient (Note 1) | $R_{\theta j a}$ | 325   | $^\circ\text{C/W}$ |
| Thermal Resistance – Junction-to-Ambient (Note 2) | $R_{\theta j a}$ | 82    | $^\circ\text{C/W}$ |

### ELECTRICAL CHARACTERISTICS

|                                                                                                                          |       |                          |                          |    |
|--------------------------------------------------------------------------------------------------------------------------|-------|--------------------------|--------------------------|----|
| Maximum Instantaneous Forward Voltage (Note 3), See Figure 2<br><br>( $I_F = 0.1\text{ A}$ )<br>( $I_F = 1.0\text{ A}$ ) | $V_F$ | $T_J = 25^\circ\text{C}$ | $T_J = 85^\circ\text{C}$ | V  |
|                                                                                                                          |       | 0.34                     | 0.26                     |    |
|                                                                                                                          |       | 0.45                     | 0.415                    |    |
| Maximum Instantaneous Reverse Current (Note 3), See Figure 4<br><br>( $V_R = 20\text{ V}$ )<br>( $V_R = 10\text{ V}$ )   | $I_R$ | $T_J = 25^\circ\text{C}$ | $T_J = 85^\circ\text{C}$ | mA |
|                                                                                                                          |       | 0.4                      | 25                       |    |
|                                                                                                                          |       | 0.1                      | 18                       |    |

3. Pulse Test: Pulse Width  $\leq 250\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

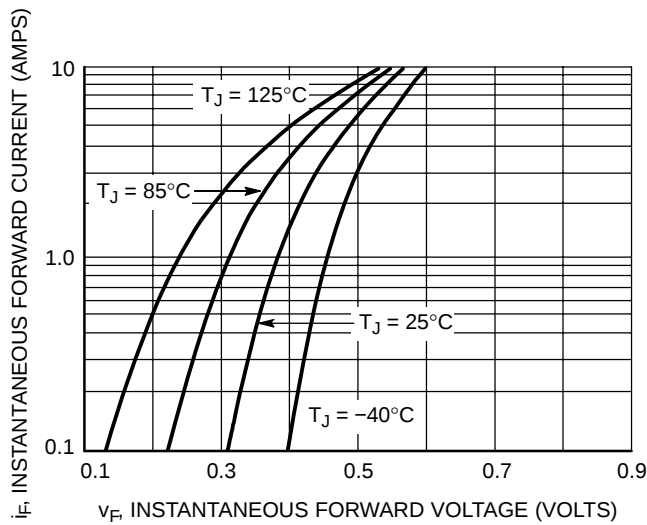


Figure 1. Typical Forward Voltage

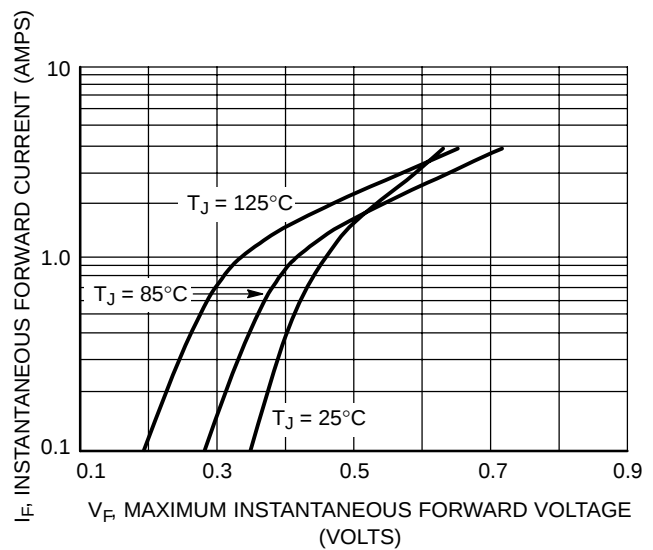


Figure 2. Maximum Forward Voltage

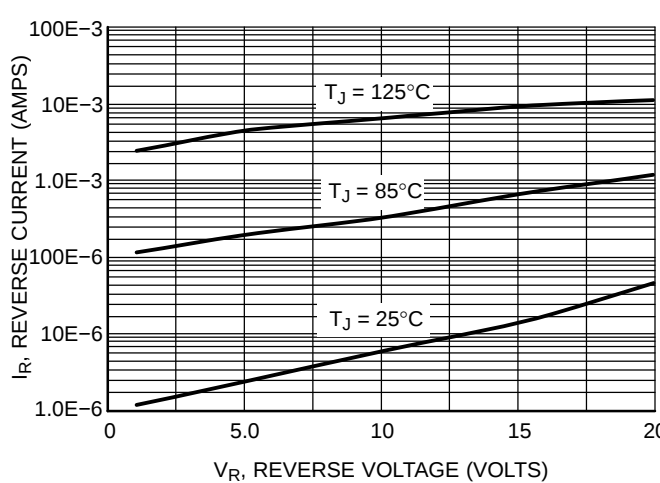


Figure 3. Typical Reverse Current

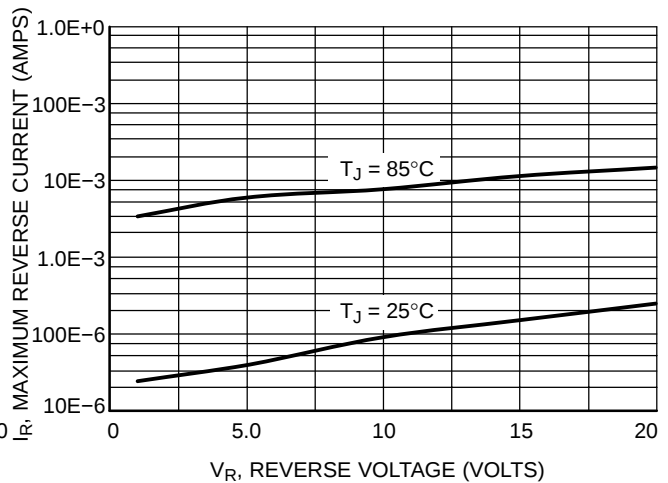


Figure 4. Maximum Reverse Current

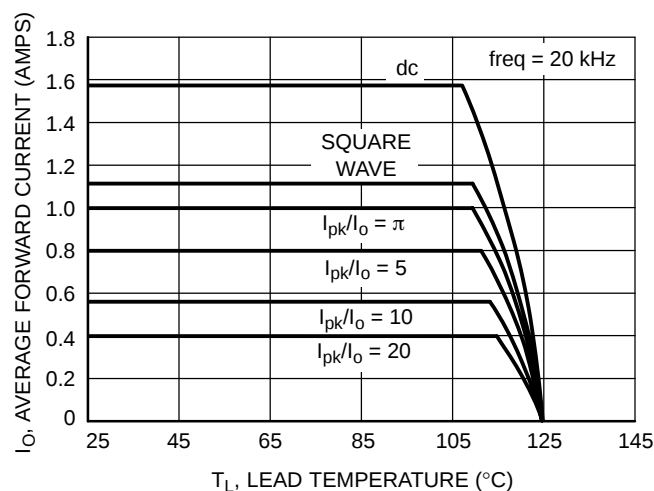


Figure 5. Current Derating

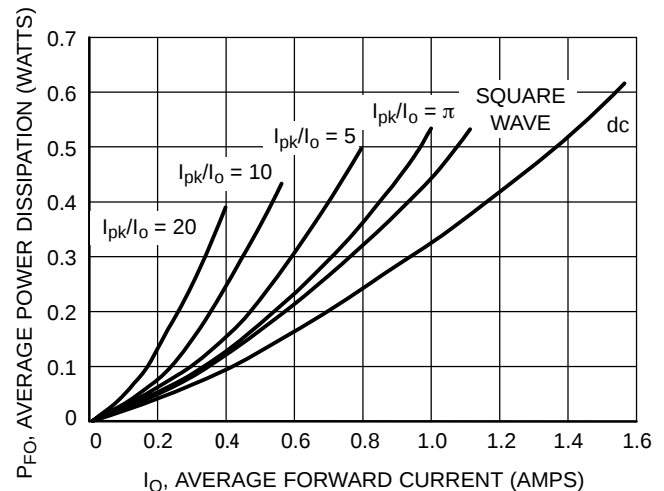


Figure 6. Forward Power Dissipation