

CDSL4148

Reverse Voltage: 100V
Forward Current: 150 mA

Features

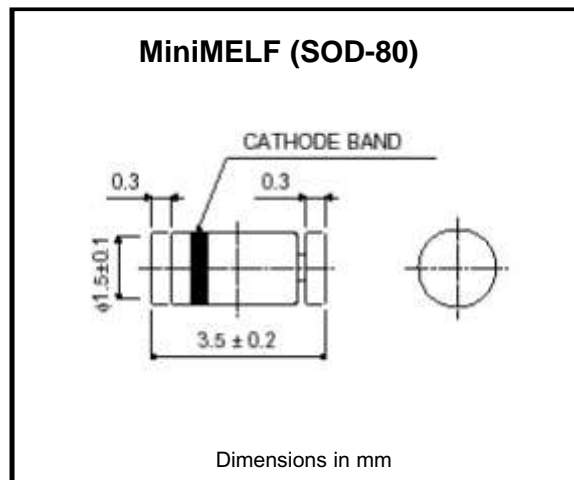
Silicon Epitaxial Planar Diode

Fast switching diode in MiniMELF case especially suited for automatic insertion.

This diode is also available in other case styles including the standard 0603 case with the type designation CDSU4148, the standard 0805 case with the type designation CDSS4148 and the standard 1206 case with the type designation CDSN4148

Mechanical Data

Case: MiniMELF Glass Case (SOD-80)
Weight: approx. 0.05g
Cathode Band Color: Black



Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

| Parameter | Symbol | Limit | Unit |
|--|-----------------|-------------|------|
| Reverse Voltage | V_R | 75 | V |
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Forward DC Current at Tamb = 25°C ⁽¹⁾ | I_F | 200 | mA |
| Average Rectified Current: Half Wave Rectification with Resistive Load at Tamb = 25°C f = 50 Hz ⁽¹⁾ | $I_{F(AV)}$ | 150 | mA |
| Surge Forward Current at t < 1s and Tj = 25°C | I_{FSM} | 500 | mA |
| Power Dissipation at Tamb = 25°C ⁽¹⁾ | P_{tot} | 500 | mW |
| Thermal Resistance Junction to Ambient Air ⁽²⁾ | $R_{\theta JA}$ | 350 | °C/W |
| Thermal Resistance Junction to tie-point | R_{qJtp} | 300 | °C/W |
| Junction Temperature | T_j | 175 | °C |
| Storage Temperature | T_s | -65 to +175 | °C |

Electrical Characteristics (Tj = 25°C unless otherwise noted)

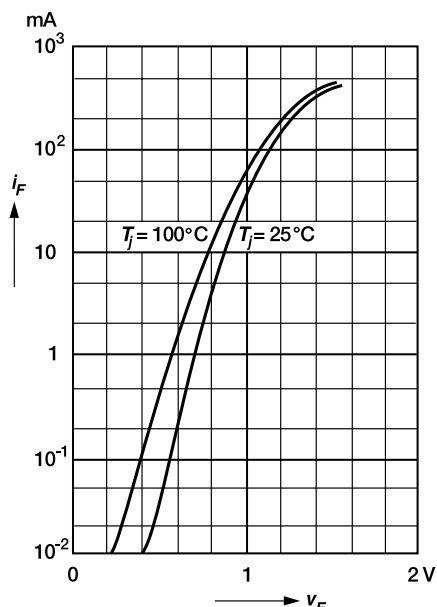
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|-----------|---|------|-----|-----|------|
| Forward Voltage | V_F | $I_F = 10\text{mA}$ | — | — | 1 | V |
| Leakage Current | IR | $V_R = 20\text{V}$ | — | — | 25 | nA |
| | | $V_R = 75\text{V}$ | — | — | 5 | μA |
| | | $V_R = 20\text{V}, T_J = 150^\circ\text{C}$ | — | — | 50 | μA |
| Capacitance | C_{tot} | $V_F = V_R = 0$ | — | — | 4 | pF |
| Voltage Rise when Switching ON (tested with 50 mA Forward Pulses) | V_{fr} | $t_p = 0.1\mu\text{s}$, Rise time < 30ns fp = 5 to 100kHz | — | — | 2.5 | V |
| Reverse Recovery Time | t_{rr} | $I_F = 10\text{mA}, I_R = 1\text{mA}, V_R = 6\text{V}, R_L = 100\Omega$ | — | — | 4 | ns |
| Rectification Efficiency (See third page) | η_V | f = 100MHz, $V_{RF} = 2\text{V}$ | 0.45 | — | — | — |

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

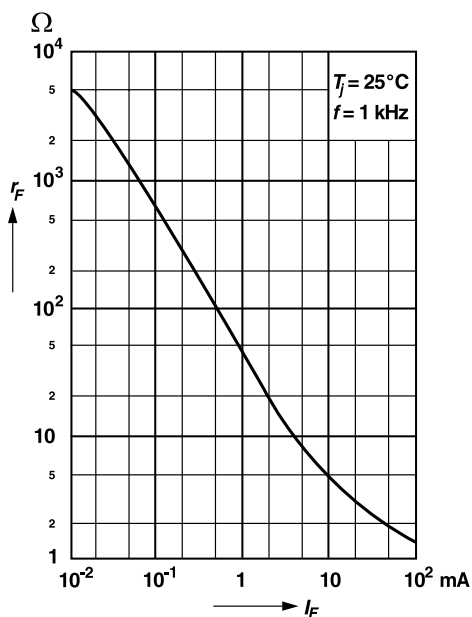
(2) Device mounted on FR4 printed-circuit board

Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Forward characteristics

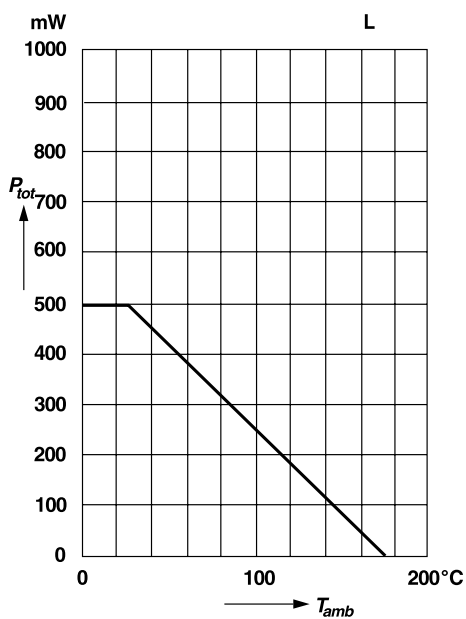


Dynamic forward resistance versus forward current

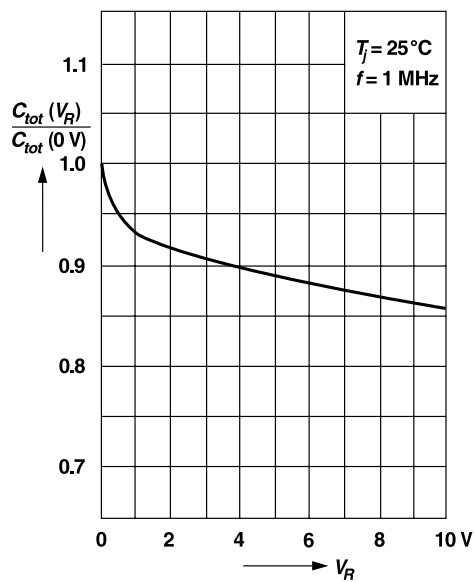


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

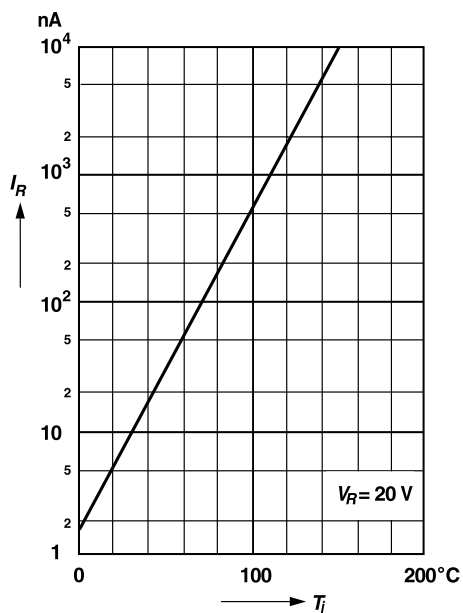


Relative capacitance versus reverse voltage

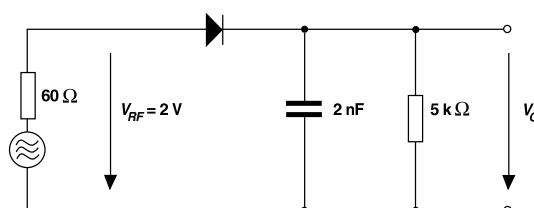


Ratings and Characteristic Curves(TA = 25°C unless otherwise noted)

Leakage current versus junction temperature



Rectification Efficiency Measurement Circuit



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature

