

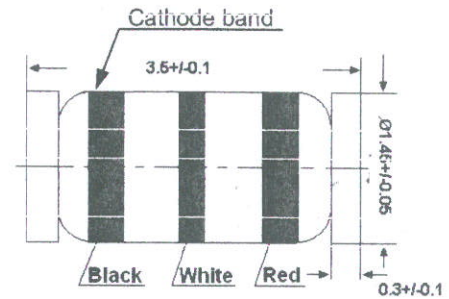
LL4148

SILICON EPITAXIAL PLANAR DIODE

LL-34

fast switching diode in MiniMELF case especially suited for automatic surface mounting.

Identical electrically to standard JEDEC 1N4148

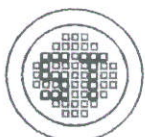


Glass case MiniMELF
Dimensions in mm

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

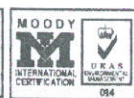
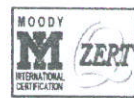
| Parameter | Symbol | Value | Unit |
|---|-----------|-------------------|------------------|
| Reverse Voltage | V_R | 75 | V |
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Rectified Current (Average) Half Wave Rectification with Resist. Load at $T_{amb} = 25\text{ }^\circ\text{C}$ and $f \geq 50\text{ Hz}$ | I_O | 150 ¹⁾ | mA |
| Repetitive Peak Forward Current | I_{FRM} | 500 | mA |
| Peak Forward Surge Current at $t_p = 1\mu\text{s}$ | I_{FSM} | 2 | A |
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_s | -65 to +175 | $^\circ\text{C}$ |

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



SEMTECH ELECTRONICS LTD.

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ISO/TS 16949:2002
Certificate No. 05103

ISO 14001:2004
Certificate No. 7116

ISO 9001:2000
Certificate No. 0506086

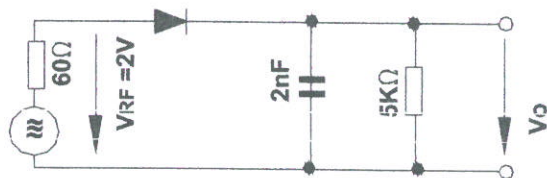
Dated : 30/11/2005

LL4148

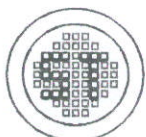
Characteristics at $T_J = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Min. | Max. | Unit |
|---|-------------------------|-------------|----------------------|--------------------------------------|
| Forward Voltage at $I_F = 10\text{ mA}$ | V_F | - | 1 | V |
| Leakage Current at $V_R = 20\text{ V}$ ¹⁾ at $V_R = 75\text{ V}$ at $V_R = 20\text{ V}, T_J = 150\text{ }^\circ\text{C}$ | I_R I_R I_R | - - - | 25 5 50 | nA μA μA |
| Reverse Breakdown Voltage tested with $100\text{ }\mu\text{A}$ Pulses | $V_{(BR)R}$ | 100 | - | V |
| Capacitance at $V_F = V_R = 0$ | C_{tot} | - | 4 | pF |
| Voltage Rise when Switching ON tested with 50 mA Forward Pulses $t_p = 0.1\text{ s}$, Rise Time < 30 ns , $f_p = 5\text{ to }100\text{ KHz}$ | V_{fr} | - | 2.5 | V |
| Reverse Recovery Time from $I_F = 10\text{ mA}$ to $I_R = 1\text{ mA}$, $V_R = 6\text{ V}$, $R_L = 100\text{ }\Omega$ | t_{rr} | - | 4 | ns |
| Thermal Resistance Junction to Ambient Air | R_{thA} | - | 0.35 ¹⁾ | K/mW |
| Rectification Efficiency at $f = 100\text{ MHz}$, $V_{RF} = 2\text{ V}$ | η_v | 0.45 | - | - |

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



Rectification Efficiency Measurement Circuit

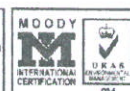


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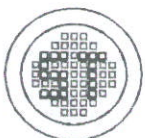
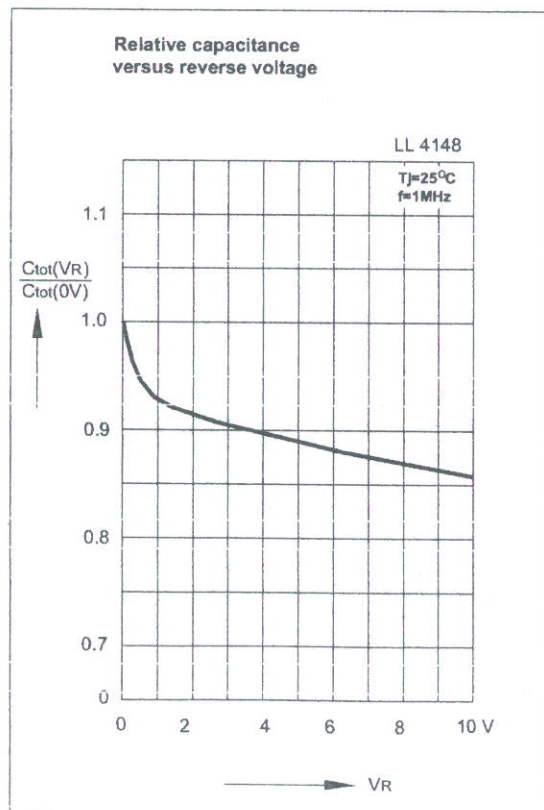
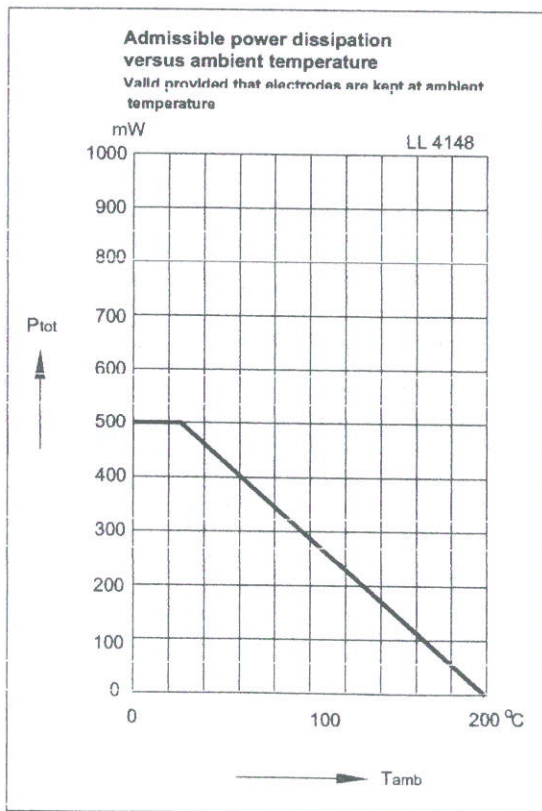
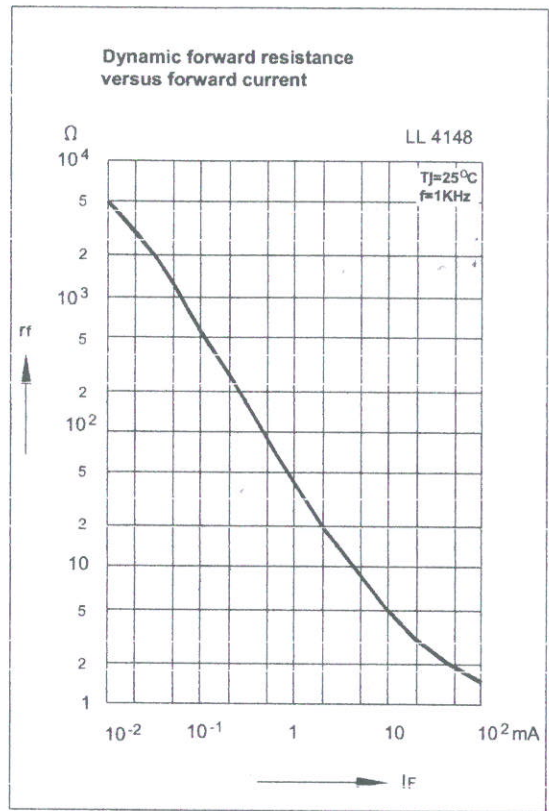
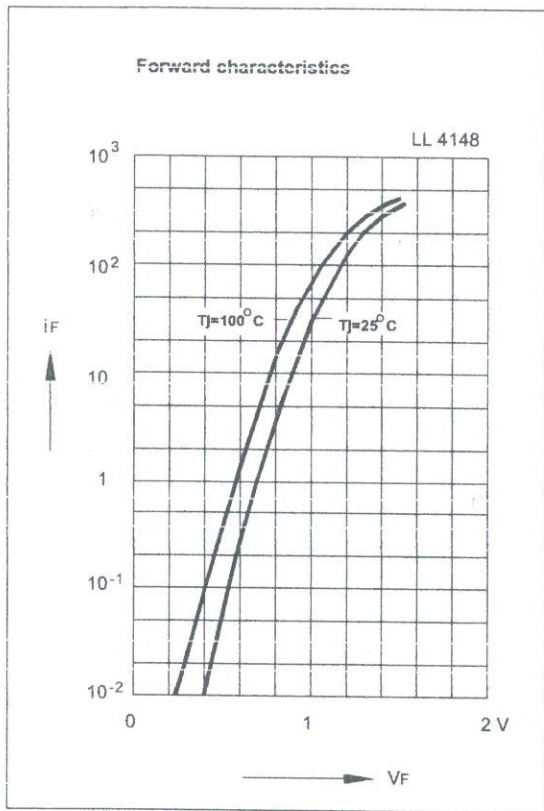


ISO 14001:2004
Certificate No. 7116



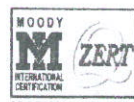
ISO 9001:2000
Certificate No. 0506086

Dated : 30/11/2005

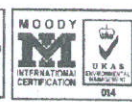


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ISO/TS 16949:2002
Certificate No. 05193



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0508098