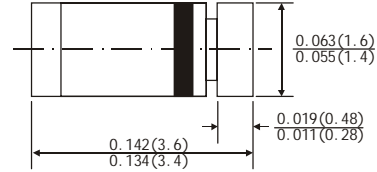




FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes
- 500mW power dissipation
- This diode is also available in the DO-35 case with the type designation 1N4148

Mini-MELF



Dimensions in inches and (millimeters)

MECHANICAL DATA

- *Case:* MinMELF glass case (SOD- 80)
- *Weight:* Approx. 0.05gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified)

| | Symbol | Value | Units |
|---|-----------|-------------------|-------|
| Reverse voltage | V_R | 75 | Volts |
| Peak reverse voltage | V_{RM} | 100 | Volts |
| Average rectified current, Half wave rectification with Resistive load at $T_A=25^\circ\text{C}$ and $F \geq 50\text{Hz}$ | I_{AV} | 150 ¹⁾ | mA |
| Surge forward current at $t < 1\text{S}$ and $T_J=25^\circ\text{C}$ | I_{FSM} | 500 | mA |
| Power dissipation at $T_A=25^\circ\text{C}$ | P_{tot} | 500 ¹⁾ | mW |
| Junction temperature | T_J | 175 | °C |
| Storage temperature range | T_{STG} | -65 to +175 | °C |

1)Valid provided that leads at a distance of 8mm from case are kept at ambient temperature(DO-35)

ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified)

| | Symbol | Min. | Typ. | Max. | Units |
|--|-----------------|------|------|-------------------|---------------|
| Forward voltage | V_F | | | 1 | Volts |
| Leakage current at $V_R=20\text{V}$ at $V_R=75\text{V}$ at $V_R=20\text{V}$, $T_J=150^\circ\text{C}$ | I_R | | | 25 | nA |
| | I_R | | | 5 | μA |
| | I_R | | | 50 | μA |
| Junction capacitance at $V_R=V_F=0\text{V}$ | C_J | | | 4 | pF |
| Voltage rise when switching ON tested with 50mA pulse $t_P=0.1\mu\text{S}$, Rise time $< 30\mu\text{S}$, $f_P=5$ to 100KHz | V_{fr} | | | 2.5 | Volts |
| Reverse recovery time from $I_F=10\text{mA}$ to $I_R=1\text{mA}$, $V_R=6\text{V}$, $R_L=100\Omega$ | t_{rr} | | | 4 | ns |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | | | 350 ¹⁾ | K/W |
| Rectification efficiency at $f=100\text{MHz}$, $V_{RF}=2\text{V}$ | η | 0.45 | | | |

1)Valid provided that leads at a distance of 8mm from case are kept at ambient temperature(DO-35)

RATINGS AND CHARACTERISTIC CURVES LL4148

FIG 1-FORWARD CHARACTERISTICS

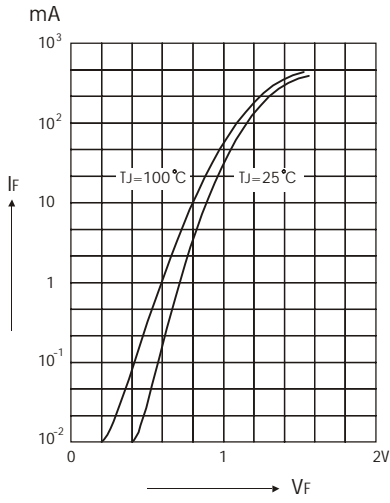


FIG 2: DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

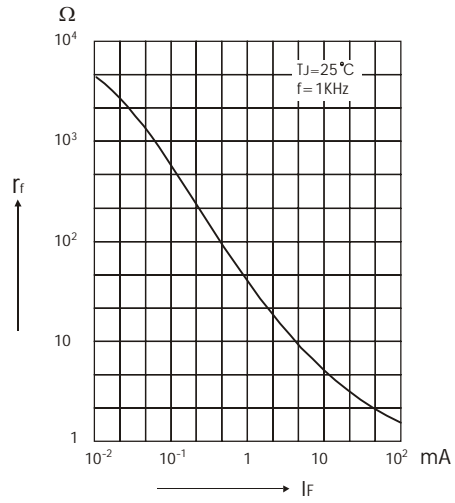


FIG 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

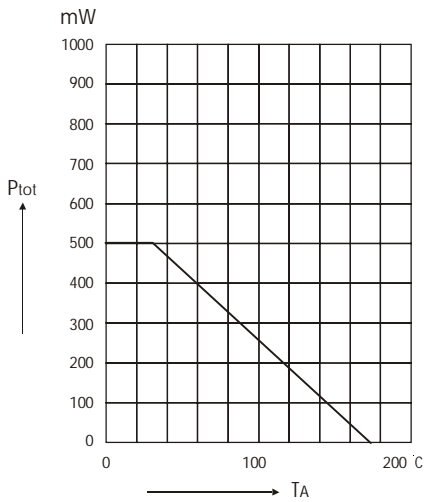
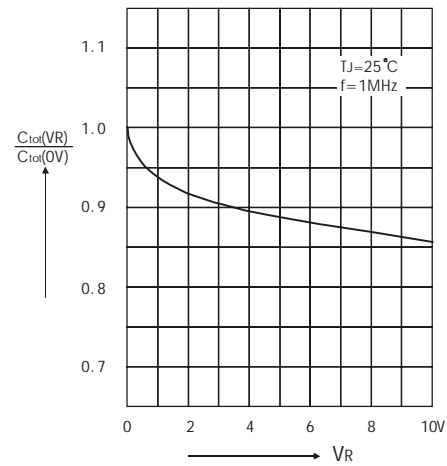


FIG. 4-RELATIVE CAPACITANCE VERSUS VOLTAGE



RATINGS AND CHARACTERISTIC CURVES LL4148

FIG.5 RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

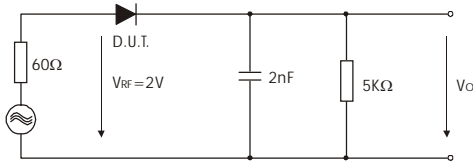


FIG 6: LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

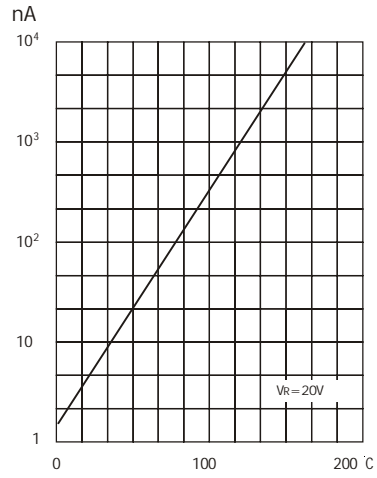


FIG 7: ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

