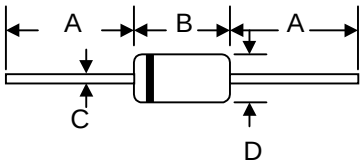
# 1N4148

## Features

- Fast Switching Speed
- Glass Package Version for High Reliability
- High Conductance
- Available in Both Through-Hole and Surface Mount Versions




**1N4148**

## Mechanical Data

- Case: DO-35, MiniMELF
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: DO-35 0.13 grams
  MiniMELF 0.05 grams
- Marking: Cathode Band Only
- **Lead Free: For RoHS / Lead Free Version,**

| DO-35 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 25.40 | — |
| **B** | — | 4.00 |
| **C** | — | 0.60 |
| **D** | — | 2.00 |
| **All Dimensions in mm** | | |

## Maximum Ratings @$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | $V_{RM}$ | 100 | V |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 75 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 53 | V |
| Forward Continuous Current (Note 1) | $I_{FM}$ | 300 | mA |
| Rectified Current (Average), Half Wave Rectification with Resistive Load and f ≧ 50MHz (Note 1) | $I_O$ | 150 | mA |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0s<br>@ t = 1.0µs | $I_{FSM}$ | 1.0<br>2.0 | A |
| Power Dissipation (Note 1)<br>Derate Above 25°C | $P_d$ | 500<br>1.68 | mW<br>mW/°C |
| Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 300 | K/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +175 | °C |

## Electrical Characteristics @$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|---|---|---|---|---|---|
| Maximum Forward Voltage | $V_{FM}$ | — | 1.0 | V | $I_F$ = 10mA |
| Maximum Peak Reverse Current | $I_{RM}$ | — | 5.0<br>50<br>30<br>25 | µA<br>µA<br>µA<br>nA | $V_R$ = 75V<br>$V_R$ = 70V, $T_j$ = 150°C<br>$V_R$ = 20V, $T_j$ = 150°C<br>$V_R$ = 20V |
| Capacitance | $C_j$ | — | 4.0 | pF | $V_R$ = 0, f = 1.0MHz |
| Reverse Recovery Time | $t_{rr}$ | — | 4.0 | ns | $I_F$ = 10mA to $I_R$ = 1.0mA<br>$V_R$ = 6.0V, $R_L$ = 100Ω |

Note: 1. Diode on Ceramic Substrate 10mm x 8mm x 0.7mm.

## Typical Characteristics Curves

**Fig.1- Power Derating Curve**

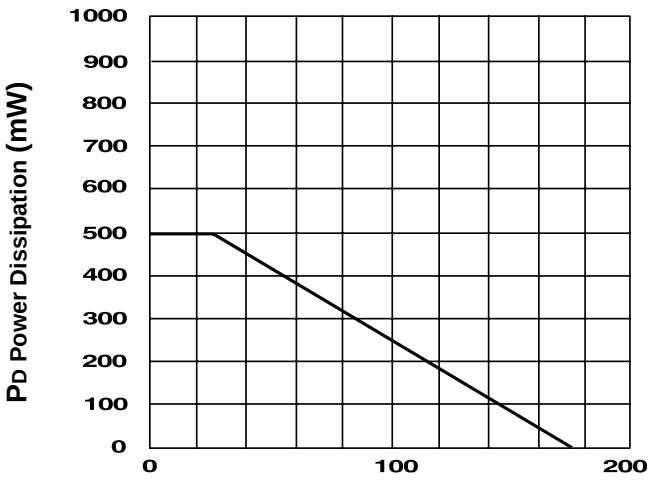



**Fig.2- Typical Forward Characteristics**

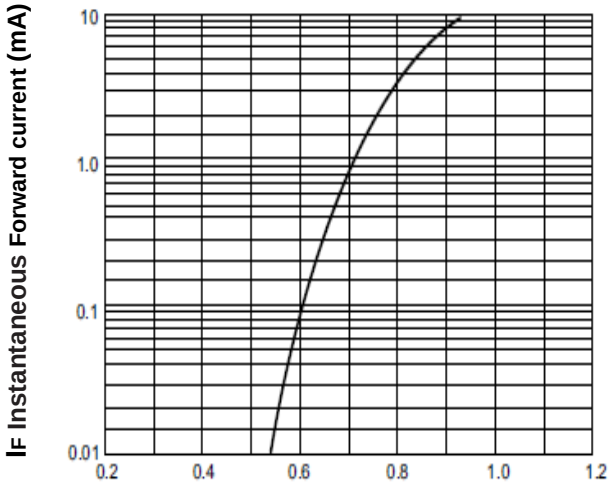



**Fig.3- Typical junction capacitance**

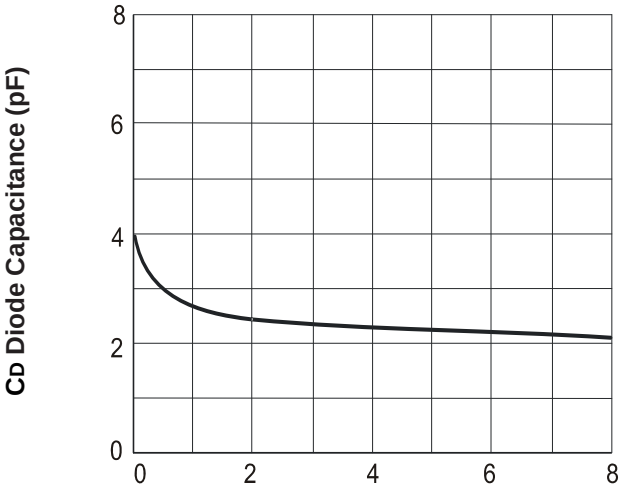



**Fig.4- Typical Reverse Characteristics**