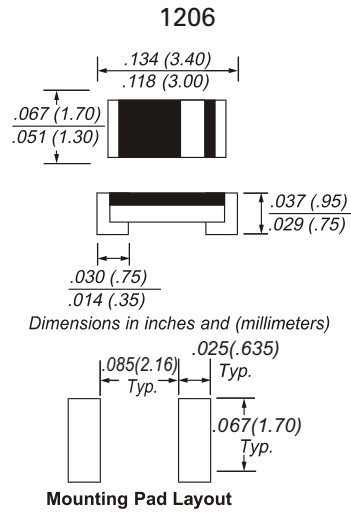
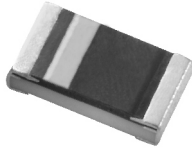


CD4148WP

SMALL-SIGNAL CHIP DIODE



FEATURES

- This diode is also available other case styles including the 0805 case with the type designation CD4148WSP, and the 0603 case with the type Designation CD4148WTP
- Silicon Epitaxial Planar Diode
- Fast switching diode.

MECHANICAL DATA

Case : 1206
 Weight : Approx. 10mg
 Marking : Cathode band

Absolute Maximum Ratings & Thermal Characteristics $T_{amb}=25^{\circ}\text{C}$, unless otherwise specified

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|-----------------|-------------------|--------------------|
| Reverse Voltage | V_R | 75 | Volts |
| Peak Reverse Voltage | V_{RM} | 100 | Volts |
| Forward Continuous current | I_{FM} | 300 | mA |
| Average rectified current sin half wave rectification with resistive load $f > = 50\text{Hz}$ | $I_{F(AV)}$ | 150 ¹⁾ | mA |
| Surge Forward Current $t < 1\text{s}$ and $T_J=25^{\circ}\text{C}$ | I_{FSM} | 500 | mA |
| Power dissipation | P_{tot} | 400 ¹⁾ | mW |
| Typical Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 375 ¹⁾ | K / W |
| Junction Temperature | T_J | 175 | $^{\circ}\text{C}$ |
| Storage Temperature | T_S | -65 to +175 | $^{\circ}\text{C}$ |

1) Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics $T_{amb}=25^{\circ}\text{C}$, unless otherwise specified

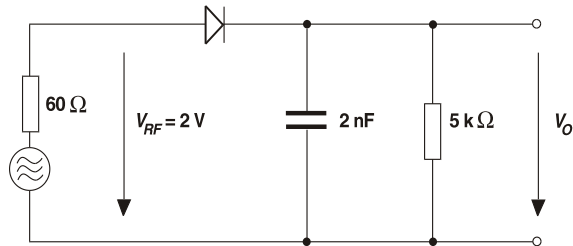
| PARAMETER | SYMBOL | Min | Max | UNIT |
|--|-----------|-----|-----|---------------|
| Forward voltage $I_F=10\text{mA}$ | V_F | | 1.0 | V |
| Leakage current $V_R=20\text{V}$ $V_R=75\text{V}$ $V_R=20\text{V}, T_J=150^{\circ}\text{C}$ | I_R | | 25 | nA |
| | | | 5.0 | μA |
| | | | 50 | μA |
| Capacitance $V_F=V_R=0\text{V}$ | C_{tot} | | 4 | pF |
| Voltage rise when switching ON tested with 50mA pulses, $t_p=0.1\mu\text{s}$, rise time $< 30\text{ns}$ $f_p=(5\text{ to }100)\text{KHz}$ | V_{FR} | | 2.5 | V |
| Reverse recovery time $I_F=10\text{mA}$ to $I_R=1\text{mA}$, $V_R=6\text{V}, R_L=100\Omega$ | T_{RR} | | 4 | nS |
| Rectification efficiency $F=100\text{MHz}, V_{RF}=2\text{V}$ | η_r | 45 | | % |

CD4148WP

SMALL-SIGNAL CHIP DIODE

Crownpo Technology

Rectification Efficiency Measurement Circuit



Typical Characteristics ($T_{amb} = 25^\circ\text{C}$ unless otherwise specified)

Figure 1. Forward Characteristics

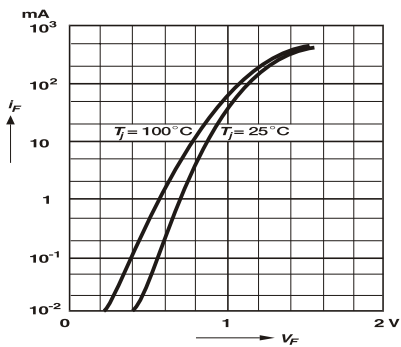


Figure 2. Dynamic Forward Resistance vs. Forward Current

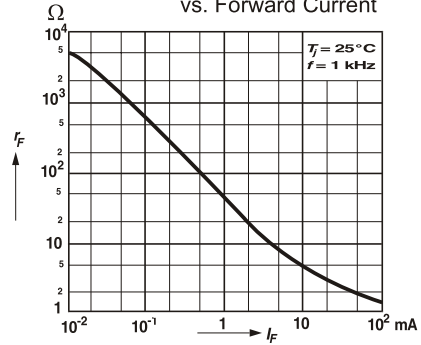


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

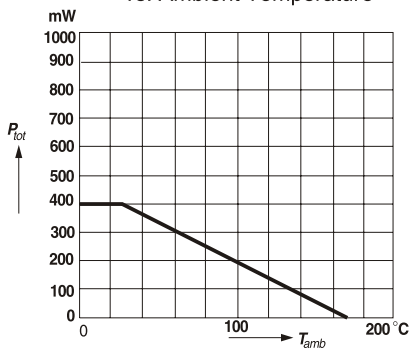


Figure 4. Relative Capacitance vs. Reverse Voltage

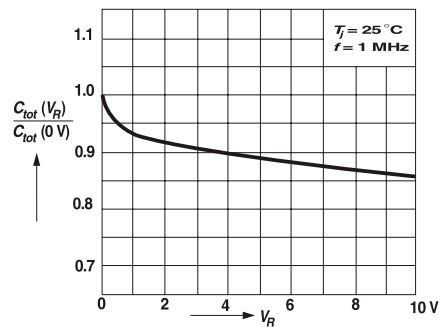


Figure 5. Leakage Current vs. Junction Temperature

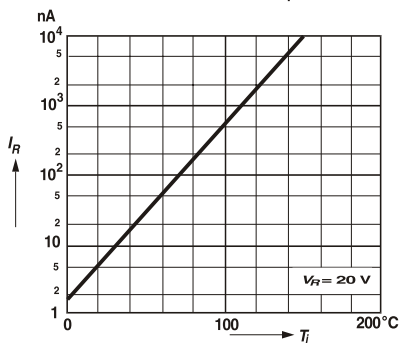


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

