

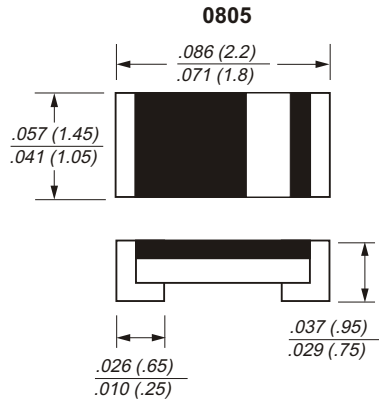


Small-Signal Chip Diode

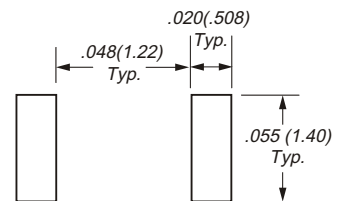
Features

- This diode is also available in other case styles including the 1206 case with the type designation CD4448WP.
- Silicon Epitaxial Planar Diode
- Fast switching diode.

Mechanical Data

Case: 0805**Weight:** approx. 6 mg**Marking:** Cathode band*Dimensions in inches and (millimeters)*

Mounting Pad Layout



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

| Parameter | Symbol | Value | Unit |
|--|-----------------|-------------------|--------------------|
| Reverse voltage | V_R | 75 | V |
| Peak reverse voltage | V_{RM} | 100 | V |
| Average rectified current sin half wave rectification with resistive load $f \geq 50$ Hz | $I_{F(AV)}$ | 150 ¹⁾ | mA |
| Surge forward current $t < 1$ s and $T_j = 25\text{ }^{\circ}\text{C}$ | I_{FSM} | 500 | mA |
| Power dissipation | P_{tot} | 400 ¹⁾ | mW |
| Typical Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 400 ¹⁾ | K/W |
| Junction temperature | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature | T_s | - 65 to + 175 | $^{\circ}\text{C}$ |

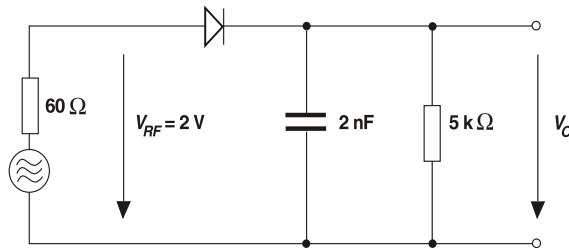
1) Valid provided that electrodes are kept at ambient temperature.



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

| Parameter | Symbol | Min | Max | Unit |
|--------------------------|---|------|------|------|
| Forward voltage | $I_F = 5\text{ mA}$ | 0.62 | 0.72 | V |
| | $I_F = 100\text{ mA}$ | | 1 | V |
| Leakage current | $V_R = 20\text{ V}$ | | 25 | nA |
| | $V_R = 75\text{ V}$ | | 5 | uA |
| | $V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$ | | 50 | uA |
| Capacitance | $V_F = V_R = 0\text{ V}$ | | 4 | pF |
| Reverse recovery time | $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$, $V_R = 6\text{ V}, R_L = 100\text{ }\Omega$ | | 4 | ns |
| Rectification efficiency | $f = 100\text{ MHz}, V_{RF} = 2\text{ V}$ | 45 | | % |

Rectification Efficiency Measurement Circuit



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

Figure 1. Forward Characteristics

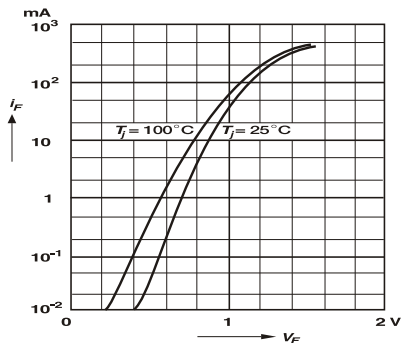


Figure 2. Dynamic Forward Resistance vs. Forward Current

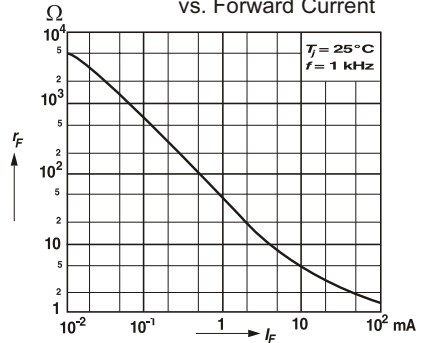




Figure 3. Admissible Power Dissipation vs. Ambient Temperature

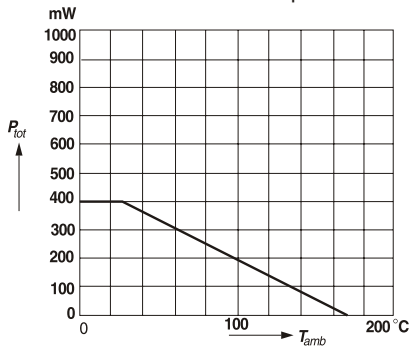


Figure 4. Relative Capacitance vs. Reverse Voltage

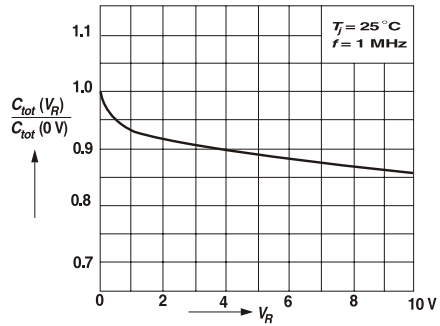


Figure 5. Leakage Current vs. Junction Temperature

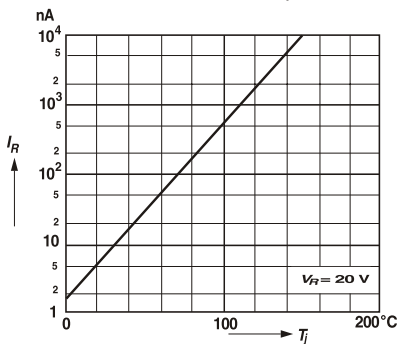
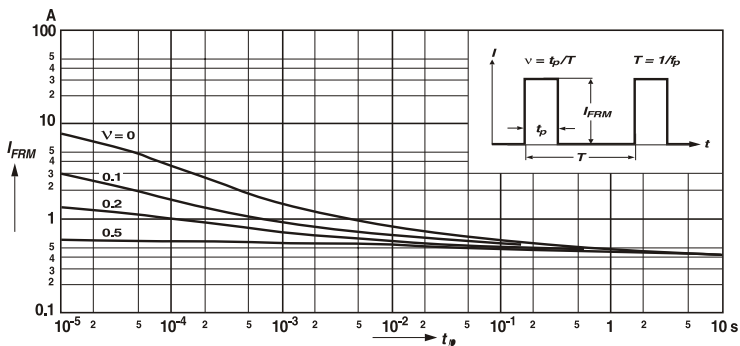


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration





Device outlook

Shanghai plant (front side)



Kunshan plant (front side)



Shanghai plant (back side)



Kunshan plant (back side)





Suggested thermal profiles for soldering processes

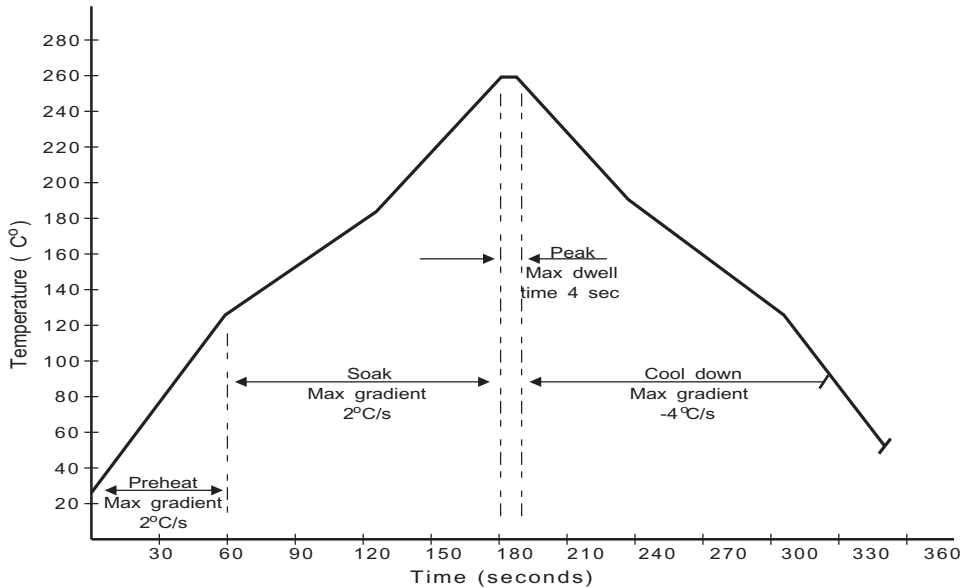


Fig.1 Typical Wave Soldering Thermal Profile

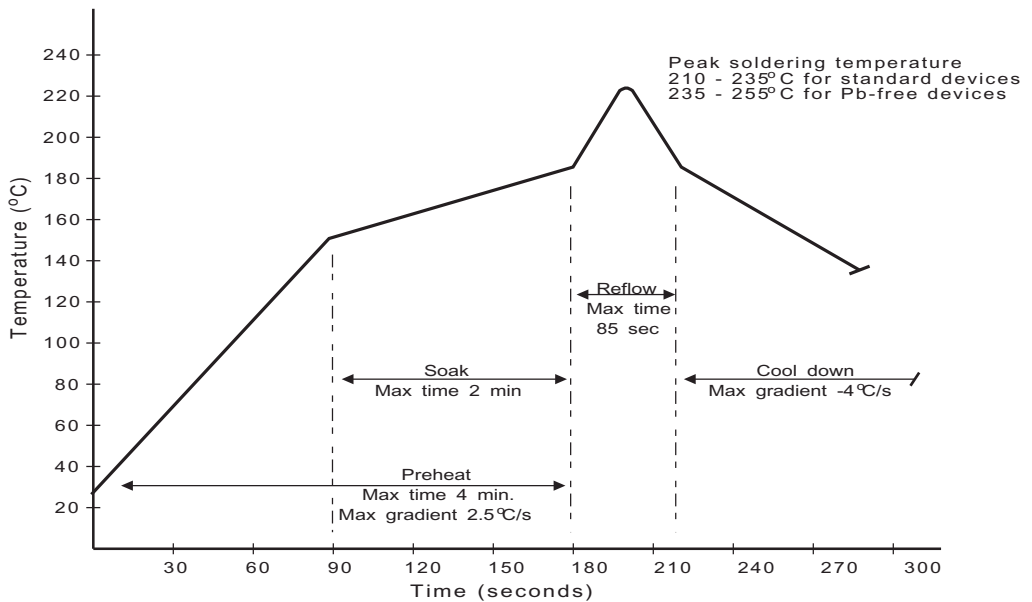


Fig.2 Typical IR Reflow Soldering Thermal Profile