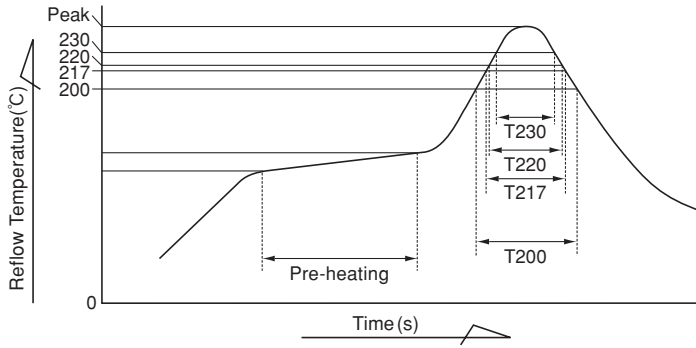


Recommended conditions of Soldering by Reflow



T200 : Duration for over +200°C at capacitor surface.
 T217 : Duration for over +217°C at capacitor surface.
 T220 : Duration for over +220°C at capacitor surface.
 T230 : Duration for over +230°C at capacitor surface.

The temperature measuring point is at the case top.

Please contact us if capacitors are subject to the conditions other than the allowable range of reflow.

| No. | Type · Series | Size | Pre-heating | Peak temperature | Duration over 230°C | Duration over 220°C | Duration over 217°C | Duration over 200°C | Reflow cycle |
|-----|---|---------|---------------------------------|------------------|---------------------|---------------------|---------------------|---------------------|--|
| 1 | Chip Type Conductive Polymer Aluminum Solid Electrolytic Capacitors | — | +150°C to 200°C from 60 to 180s | 260°C Max. | within 60s | — | within 70s | — | 1 cycle only (within 2 cycles ^{*5} for series ^{*4}) |
| | (PCF, PCJ, PCK, PCG, PCS, PCL, PCV, PCX, PCR, PCM, PCH, PCZ) | — | | 250°C Max. | within 60s | — | within 70s | — | within 2 cycles ^{*5} |
| 2 | Conductive Polymer Hybrid Aluminum Electrolytic Capacitors | — | | 260°C Max. | within 40s | — | within 50s | — | 1 cycle only |
| | (GYA, GYB, GYC, GYD, GYE) | — | | 250°C Max. | within 30s | — | within 40s | — | within 2 cycles ^{*5} |
| 3 | Chip Type Aluminum Electrolytic Capacitors | ~ φ10 | | 250°C Max. | within 30s | — | within 40s | — | within 2 cycles ^{*5} |
| 4 | Chip Type Aluminum Electrolytic Capacitors (UWX, UWP, UWT) | φ8×5.4L | | 245°C Max. | — | within 30s | within 30s | — | within 2 cycles ^{*5} |
| 5 | Chip Type Aluminum Electrolytic Capacitors (UZR, UZG) | 3.9L | +150°C to 180°C within 120s | 240°C Max. | — | within 30s | within 30s | — | within 2 cycles ^{*5} (φ6.3: 1 cycle only) |
| 6 | Chip Type Aluminum Electrolytic Capacitors (UUX (160-400V), UUB (160-400V), ULT, ULH, ULR, ULV) | ~ φ10 | | 240°C Max. | — | within 30s | within 30s | — | within 2 cycles ^{*5} |
| 7 | Chip Type Aluminum Electrolytic Capacitors (UCD, UCM, UCZ, UCX, UUG, UUU, UUN, UUE, UBC) | φ12.5 ~ | | 240°C Max. | — | — | within 30s | within 60s | within 2 cycles ^{*5} |
| 8 | Chip Type Aluminum Electrolytic Capacitors ^{*6} (UWJ, UWZ, UWD, UWH) | — | | 260°C Max. | within 60s | — | within 70s | — | within 2 cycles ^{*5} (φ8×6.2L and φ10×10L: 1 cycle only) |

s=seconds

- ※1: For φ8×5.4L, please refer to the No.4.
- ※2: For φ12.5 or greater, please refer to the No.7.
- ※3: For 160~400V, please refer to the No.6.
- ※4: Including PCR, PCM, PCH and PCZ.
- ※5: Please make sure the parts have enough cooling down time between the first and second soldering process.
- ※6: For High Temp. Reflow.

ESR. Impedance Measuring Point

Radial lead type

ESR should be measured at both of the terminal ends closest to the capacitor body.

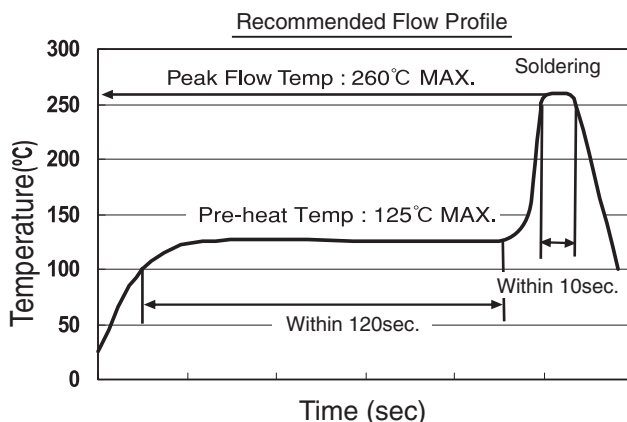
Chip type

ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.

FPCAP Lead free and RoHS directive compliant soldering requirements

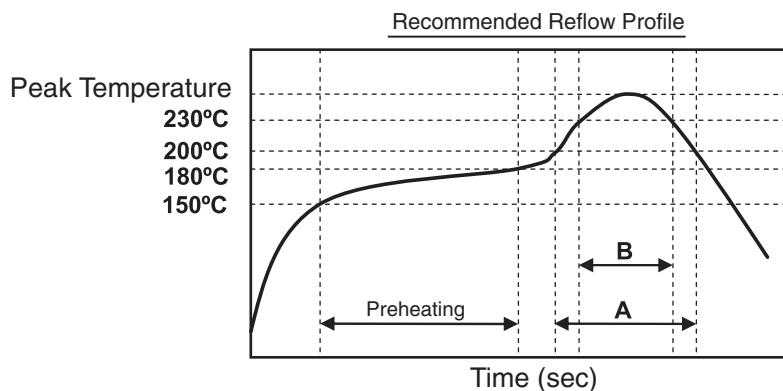
Flow Soldering(Radial Lead Type)

RNS, RR7, RR5, RL8, RE5, RS8, RF8, RNU, RNE, RNL, RS6, RHT



Reflow Soldering(SMD Type)

RPS, RPA, RHS, RHA, RSS, RSA, RSB, RFS, RFA, RSL



| Item | Recommended Condition 1 | Recommended Condition 2 |
|----------------------|------------------------------------|------------------------------------|
| Peak Temperature | 260°C MAX. | 250°C MAX. |
| Preheating | 150°C to 180°C within 90 seconds | 150°C to 180°C within 90 seconds |
| A | 200°C and higher within 60 seconds | 200°C and higher within 60 seconds |
| B | 230°C and higher within 40 seconds | 230°C and higher within 40 seconds |
| The Number of Reflow | Only 1 time | Twice or less |