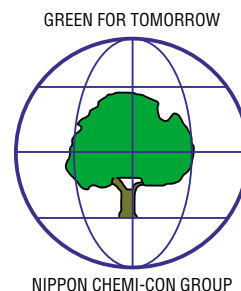


LEAD FREE & NON-PVC ALUMINUM ELECTROLYTIC CAPACITORS

Nippon Chemi-con aim at paying attention to global environments. In fact, our several factories already have received ISO-14000 certificate. In terms of raw materials of aluminum electrolytic capacitors, we are going to eliminate PVC and LEAD or replace other materials with these issued materials; then, we have commercialized environmentally friendly products.



◆Lead free and Non-PVC Products

1. Lead Wire (Plating)

| Category | | Plating material on lead wires | |
|-------------|------------------|--------------------------------|----------------------|
| | | Standard | Pb-free type |
| Chip | Horizontal Type | Sn-Pb | Sn-Bi |
| | Vertical Type | | |
| Radial | φ4×5L to φ6.3×5L | | |
| | φ8×5L | | |
| | φ4×7L to φ8×7L | | |
| | φ5×11L to φ8×20L | | |
| | φ10 and more | | |
| Snap-in | | | Sn100% |
| Screw-Mount | | Originally lead free | Originally lead free |

Note Pb : Lead, Sn : Tin, Bi : Bismuth

2. Sleeve

| Category | | Sleeve material | |
|-------------|------------------|---------------------------|---------------------------|
| | | Standard | Non-PVC type |
| Chip | Horizontal Type | Sleeveless (Resin case) | Sleeveless (Resin case) |
| | Vertical Type | Sleeveless (Coating case) | Sleeveless (Coating case) |
| Radial | φ4×5L to φ6.3×5L | PVC | PET |
| | φ8×5L | Sleeveless (Coating case) | Sleeveless (Coating case) |
| | φ4×7L to φ8×7L | PVC | PET |
| | φ5×11L to φ8×20L | | |
| | φ10 and more | | |
| Snap-in | | | |
| Screw-Mount | | | Polyolefin |

Specifications in this bulletin are subject to change without notice.

LEAD FREE & NON-PVC ALUMINUM ELECTROLYTIC CAPACITORS

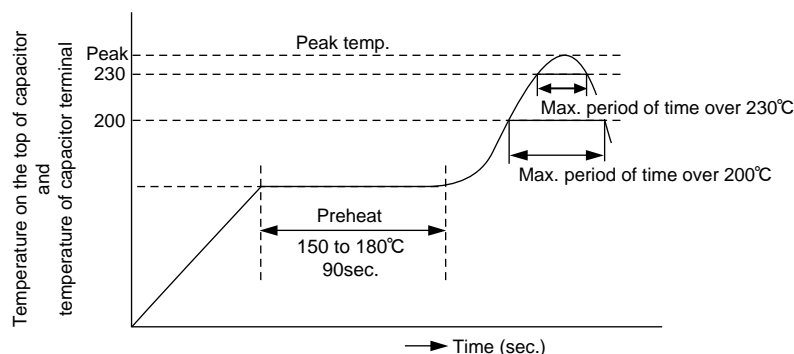
◆Reflow soldering condition

Generally speaking, lead free solder requires high heat reflow temperature. Therefore, more heat must stress to aluminum electrolytic capacitors. Especially for chip products, be sure to consider the reflow soldering condition mentioned below to avoid soldering problem.

●Soldering heat condition

| Series | Size | Standard | | | Pb-free type | | |
|--|------------|-----------------|-----------------|------------|-----------------|-----------------|------------|
| | | Time over 200°C | Time over 230°C | Peak temp. | Time over 200°C | Time over 230°C | Peak temp. |
| MF, MFK MFY, MFJ MF-BP MFK-BP | B6 to D13 | 20sec. max. | — | 240°C max. | 60sec. max. | 30sec. max. | 250°C max. |
| MV, MVK, MVJ, MVA, MVE, MVY, MVZ, MVS, MV-BP MVK-BP | B55 to F80 | 20sec. max. | — | 240°C max. | 60sec. max. | 30sec. max. | 250°C max. |
| | H63 to J10 | 20sec. max. | — | 230°C max. | 50sec. max. | 20sec. max. | 240°C max. |
| MVL, MVH | D60 to F80 | 20sec. max. | — | 240°C max. | 70sec. max. | 40sec. max. | 250°C max. |
| | H63 to J10 | 20sec. max. | — | 230°C max. | 50sec. max. | 20sec. max. | 240°C max. |

- 1) MKA series has been also lined-up as an environmentally friendly standard series. Please refer to as Aluminum Electrolytic Capacitors Catalogue.
- 2) When you requires for harsher condition than our recommendation, please consult us.



◆Flow soldering condition

Radial and Snap-in types follow to the flow soldering condition mentioned below.

●Soldering heat condition

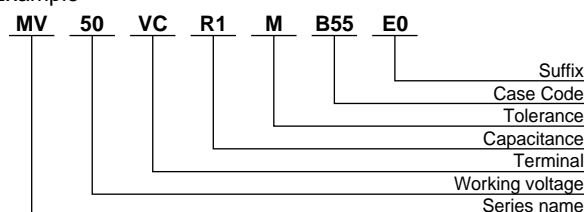
260±5°C for 10±1 seconds or 380±10°C for 3.0±0.5 seconds.

◆Lead free and Non-PVC products Part Numbering System

Please use suffix as mentioned below when ordering.

| | |
|--|----|
| Vertical Chip Radial (φ8×5L, φ5×11L to φ8×20L) Snap-in | E0 |
| Radial (Case Diameter : φ10 and more) Screw-Mount | E1 |
| Radial (φ4×5L to φ6.3×5L, φ4×7L to φ8×7L) | E2 |

●Example



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