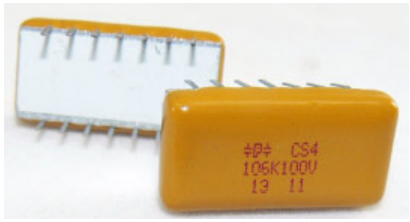
# Type CS (Capstick®) Metallized Polymer Network

## Radial Multi-pin Metallized Polymer Network for DC to DC Converters




The Type CS multi-pin metallized polymer network is ideal for the low ESR/ESL requirements in DC to DC converters and switching power supply applications. This unique, robust, capacitor design offers high ripple current capability and high capacitance in a small package. It is available with straight pins on 0.10" centers for through-hole mounting or with gull wing leads for surface mount assembly. Type CS (Capstick®) is encapsulated in a rugged conformal coating and is packaged in anti-static tubes for easy handling.

## Highlights

- Rugged conformal coated case meets UL94V-0
- Low ESR/ESL
- High ripple current
- High capacitance in a small package
- Non-inductive design
- Non-polar
- Surface mount or through hole assembly
- Multi-pin leads on 0.10" centers

## Specifications

**RoHS Compliant**

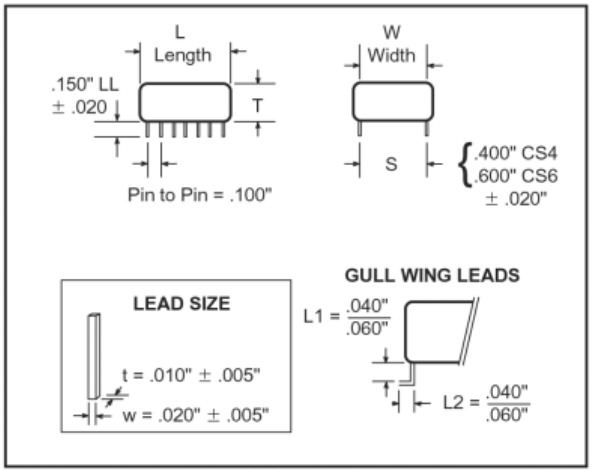
| | |
|---|---|
| **Capacitance Range:** | **0.33 µF to 20.0 µF** |
| **Voltage Range:** | **50 Vdc, 100 Vdc, 250 Vdc, 400 Vdc, 500 Vdc** |
| **Capacitance Tolerance:** | **±10%** |
| **Operating Temperature Range for 50, 100 and 250 Vdc:** | **–55 °C to +125 °C (with 50% Vdc derating >85 °C)** |
| **Operating Temperature Range for 400 and 500 Vdc:** | **–55 °C to +125 °C with no derating** |
| **Construction:** | **Multilayer metallized polymer dielectric** |
| **Temperature Coefficient:** | **+6% from –55 °C to +85 °C** |
| **Dielectric Withstand Voltage:** | **1.3 x rated voltage: 50/100/250/500 Vdc**<br>**1.6 x rated voltage: 400 Vdc** |
| **Dissipation Factor (DF):** | **≤1.0% @ 1 kHz** |
| **Total Self Inductance (L):** | **<6 nH typical (CS6)**<br>**< 4 nH typical (CS4)** |
| **Lead Material:** | **Tinned copper alloy frame** |
| **Insulation Resistance:** | **≥1000 MΩ • µF - need not exceed 1000 MΩ** |

## Part Numbering System

| 405 | K | 100 | CS | 4 | G | – | FA |
|---|---|---|---|---|---|---|---|
| Cap | | | | Pin | "Optional" | | |
| (µF) | Tolerance | Voltage | Series | Spacing | ( * ) | | |
| 334 = 0.33 µF | K = ±10% | 050 = 50 Vdc | CS | 4 = 0.4" (10.0 mm) | Blank = Straight Pins | | Blank = 5/6 RoHS |
| 405 = 4.0 µF | | 100 = 100 Vdc | | 6 = 0.6" (15.0 mm) | G = Gull Wing | | FA = 6/6 RoHS |
| 206 = 20.0 µF | | 400 = 400 Vdc | | | | | |

# Type CS (Capstick®) Metallized Polymer Network

## Capacitor Outline Drawing




## Test Method and Performance

| | |
|---|---|
| **Accelerated Dry Life** | |
| **Test Conditions** | |
| Temperature: | +85 °C ±5 °C |
| Applied Voltage: | 1.25 x rated voltage |
| Test Duration: | 1000 hours performance |
| **Requirements** | |
| Capacitance : | Change of ≤5.0% |
| Dissipation Factor: | ≤1.0% @ 1 kHz |
| Insulation Resistance: | ≥1K MΩ • µF, need not exceed 1 K MΩ |
| **Humidity** | |
| **Test Conditions** | |
| Temperature: | +85 °C ±2.0 °C |
| Applied Voltage: | Zero voltage |
| Humidity: | 85% ±2% RH |
| Test Duration: | 21 days |
| **Performance Requirements** | |
| Capacitance | Change of ≤7.0% |
| Dissipation Factor | ≤1.0% @ 1 kHz |
| Insulation Resistance | ≥ 30% of limit value |
| **Soldering** | |
| **Test Conditions** | |
| Thru Hole Soldering Temperature: | 260 °C, 5 sec. |
| SMD Reflow Soldering Temperature: | 220 °C, 30 sec. |
| **Performance Requirements** | |
| Capacitance: | Change of ≤ 2% |
| **Capacitance Drift:** | ≤2.0% over 2 years between 0 °C and 35 °C and a RH of between 35% and 65% |
| **Vibration** | Conforms to MIL-STD-202 Method 204D |

**Note: The 400 Vdc rating can handle a 450 Vdc surge and is built to a 640 Vdc high potential.**

## Ratings — RoHS Compliant

| Catalog Part Number | Cap (µF) | DC Voltage | ESR Ω @ 500 kHz | RMS Current @ 500 kHz | W Max. Inches (mm) | T Max. Inches (mm) | L Max. Inches (mm) | Nom. L.S. Inches (mm) | Leads Per Side | Tube Quantity |
|---|---|---|---|---|---|---|---|---|---|---|
| **50 Vdc** | | | | | | | | | | |
| 106K050CS4* | 10.00 | 50 | 0.0030 | 15.3 | 0.5 (12.7) | 0.32 (8.1) | 0.620 (15.7) | 0.4 (10) | 5 | 32 |
| 206K050CS4* | 20.00 | 50 | 0.0025 | 17.8 | 0.5 (12.7) | 0.32 (8.1) | 1.150 (29.2) | 0.4 (10) | 9 | 16 |
| **100 Vdc** | | | | | | | | | | |
| 205K100CS4* | 2.00 | 100 | 0.009 | 8.3 | 0.5 (12.7) | 0.25 (6.4) | 0.450 (11.4) | 0.4 (10) | 3 | 44 |
| 405K100CS4* | 4.00 | 100 | 0.007 | 11.5 | 0.5 (12.7) | 0.25 (6.4) | 0.450 (11.4) | 0.4 (10) | 3 | 44 |
| 475K100CS4* | 4.70 | 100 | 0.006 | 12.2 | 0.5 (12.7) | 0.25 (6.4) | 0.525 (13.3) | 0.4 (10) | 3 | 38 |
| 685K100CS4* | 6.80 | 100 | 0.005 | 13.7 | 0.5 (12.7) | 0.25 (6.4) | 0.700 (17.8) | 0.4 (10) | 5 | 35 |
| 106K100CS4* | 10.00 | 100 | 0.003 | 15.3 | 0.5 (12.7) | 0.25 (6.4) | 0.995 (25.3) | 0.4 (10) | 7 | 20 |
| **250 Vdc** | | | | | | | | | | |
| 105K250CS6* | 1.00 | 250 | 0.012 | 5.2 | 0.7 (17.8) | 0.30 (7.6) | 0.440 (11.2) | 0.6 (15) | 3 | 44 |
| **400 Vdc** | | | | | | | | | | |
| 334K400CS6* | 0.33 | 400 | 0.012 | 6.0 | 0.7 (17.8) | 0.32 (8.1) | 0.435 (11.0) | 0.6 (15) | 3 | 44 |
| 474K400CS6* | 0.47 | 400 | 0.011 | 6.2 | 0.7 (17.8) | 0.32 (8.1) | 0.460 (11.7) | 0.6 (15) | 3 | 42 |
| 105K400CS6* | 1.00 | 400 | 0.008 | 9.5 | 0.7 (17.8) | 0.32 (8.1) | 0.880 (22.4) | 0.6 (15) | 7 | 22 |
| **500 Vdc** | | | | | | | | | | |
| 474K500CS6* | 0.47 | 500 | 0.011 | 6.2 | 0.7 (17.8) | 0.32 (8.1) | 0.625 (15.9) | 0.6 (15) | 4 | 32 |
| 105K500CS6* | 1.00 | 500 | 0.008 | 9.5 | 0.7 (17.8) | 0.32 (8.1) | 1.135 (28.8) | 0.6 (15) | 8 | 16 |

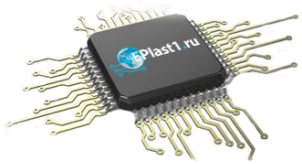
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

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