

# Type 940C through 943C Power Film Capacitors

查询940C30S15K-F供应商

捷多邦 专业PCB打样工厂, 24小时加急出货

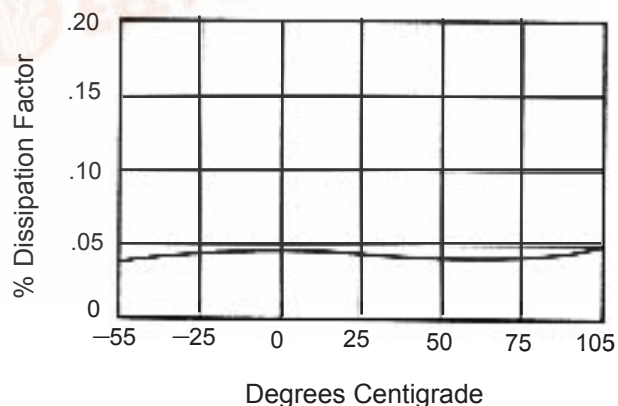
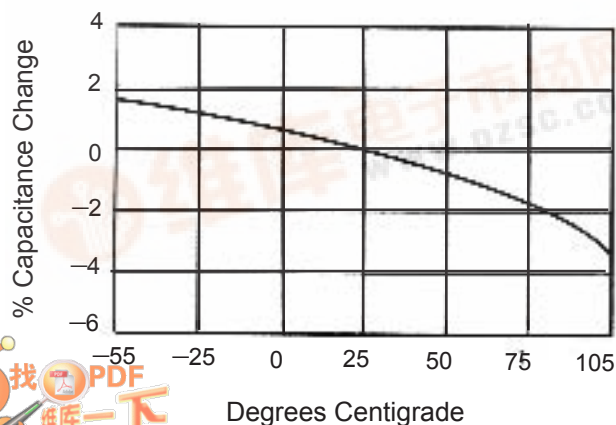
## Electrical Characteristics

|                                                                                        |                                                                                                   |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Operating Temperature                                                                  | -55 °C to +105 °C<br>*Full rated voltage at 85 °C, derate linearly to 50% rated voltage at 105 °C |
| Capacitance tolerance                                                                  | ±10% standard tolerance                                                                           |
| Dissipation Factor                                                                     | <0.1% at 1 kHz, 25 °C                                                                             |
| Dielectric Withstand                                                                   | 1.6 x rated voltage for 60 seconds                                                                |
| Insulation Resistance                                                                  | >100,000 MΩ x μF at 100 Vdc<br>measured after 2 minutes                                           |
| Equivalent Series Resistance (ESR)                                                     | See rating tables for values                                                                      |
| Equivalent Series Inductance (ESL)                                                     | See rating tables for values                                                                      |
| dV/dt                                                                                  | See rating tables for values                                                                      |
| Rated Current, $I_{pk}$ and $I_{rms}$<br>Maximum allowable current in amperes at 70 °C | See rating tables for values                                                                      |
| Capacitance Temperature Coefficient                                                    | -200 ppm/°C ±100 ppm                                                                              |
| Service Life                                                                           | 30,000 hours @ rated Vac, 70 °C<br>60,000 hours @ rated Vdc, 70 °C                                |

## Accelerated Tests

|                           |                                                                                    |
|---------------------------|------------------------------------------------------------------------------------|
| Accelerated Life          | 1.25 x rated DC voltage at 85 °C for 2,000 hours                                   |
| Performance               | <3% capacitance change<br>ESR <125% of initial reading<br>IR >50% of initial limit |
| Accelerated Pulse Testing | per IEC-384                                                                        |
| Performance               | <3% in capacitance change<br><.003 increase in DF from initial value               |

## Typical Characteristics

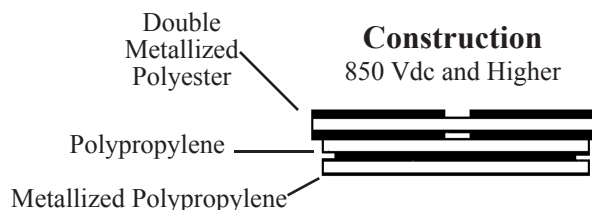


# Type 940C High dV/dt, Round Polypropylene Film Capacitors

## Double Metallized – Axial Leads



Type 940C round, axial leaded film capacitors have polypropylene film and dual metallized electrodes for both self healing properties and high peak current carrying capability (dV/dt). This series features low ESR characteristics, excellent high frequency and high voltage capabilities.



## Specifications

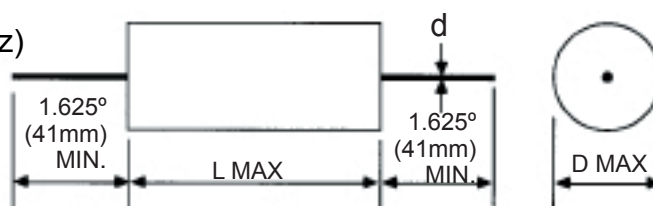
**Voltage Range:** 600 – 3000 Vdc (275 - 750 Vac, 60 Hz)

**Capacitance Range:** 0.01 – 4.7  $\mu$ F

**Capacitance Tolerance:**  $\pm 10\%$

**Operating Temperature Range:**  $-55^{\circ}\text{C}$  to  $105^{\circ}\text{C}$ \*

\*Full-rated voltage at  $85^{\circ}\text{C}$ —Derate linearly to 50%-rated voltage at  $105^{\circ}\text{C}$



NOTE: Refer to Application Guide for test conditions. Contact us for other capacitance values, sizes and performance specifications.



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

## Ratings

| Cap.                     | Catalog Part Number | D            | L            | d           | Typical ESR   | Typical ESL | dV/dt      | I peak | I <sub>RMS</sub> 70 °C |
|--------------------------|---------------------|--------------|--------------|-------------|---------------|-------------|------------|--------|------------------------|
| ( $\mu$ F)               |                     | Inches (mm)  | Inches (mm)  | Inches (mm) | (m $\Omega$ ) | (nH)        | V/ $\mu$ s | (A)    | 100 kHz (A)            |
| <b>600 Vdc (275 Vac)</b> |                     |              |              |             |               |             |            |        |                        |
| .10                      | 940C6P1K-F          | .354 (9.0)   | 1.339 (34.0) | .032 (.8)   | 28            | 19          | 196        | 20     | 2.5                    |
| .15                      | 940C6P15K-F         | .413 (10.5)  | 1.339 (34.0) | .032 (.8)   | 13            | 20          | 196        | 29     | 4.0                    |
| .22                      | 940C6P22K-F         | .453 (11.5)  | 1.339 (34.0) | .032 (.8)   | 12            | 20          | 196        | 43     | 4.4                    |
| .33                      | 940C6P33K-F         | .531 (13.5)  | 1.339 (34.0) | .032 (.8)   | 9             | 21          | 196        | 65     | 5.6                    |
| .47                      | 940C6P47K-F         | .610 (15.5)  | 1.339 (34.0) | .040 (1.0)  | 7             | 22          | 196        | 92     | 6.9                    |
| .68                      | 940C6P68K-F         | .709 (18.0)  | 1.339 (34.0) | .040 (1.0)  | 6             | 23          | 196        | 134    | 8.1                    |
| 1.00                     | 940C6W1K-F          | .827 (21.0)  | 1.339 (34.0) | .040 (1.0)  | 6             | 24          | 196        | 196    | 8.9                    |
| 1.50                     | 940C6W1P5K-F        | .984 (25.0)  | 1.339 (34.0) | .047 (1.2)  | 5             | 26          | 196        | 295    | 10.9                   |
| 2.00                     | 940C6W2K-F          | .925 (23.5)  | 1.811 (46.0) | .047 (1.2)  | 5             | 31          | 128        | 255    | 11.8                   |
| 3.30                     | 940C6W3P3K-F        | 1.063 (27.0) | 2.126 (54.0) | .047 (1.2)  | 4             | 36          | 105        | 346    | 15.3                   |
| 4.70                     | 940C6W4P7K-F        | 1.240 (31.5) | 2.126 (54.0) | .047 (1.2)  | 4             | 38          | 105        | 492    | 16.8                   |
| <b>850 Vdc (450 Vac)</b> |                     |              |              |             |               |             |            |        |                        |
| .15                      | 940C8P15K-F         | .512 (13.0)  | 1.339 (34.0) | .032 (.8)   | 8             | 21          | 713        | 107    | 5.8                    |
| .22                      | 940C8P22K-F         | .610 (15.5)  | 1.339 (34.0) | .040 (1.0)  | 8             | 22          | 713        | 157    | 6.4                    |
| .33                      | 940C8P33K-F         | .709 (18.0)  | 1.339 (34.0) | .040 (1.0)  | 7             | 23          | 713        | 235    | 7.5                    |
| .47                      | 940C8P47K-F         | .827 (21.0)  | 1.339 (34.0) | .040 (1.0)  | 5             | 24          | 713        | 335    | 9.8                    |
| .68                      | 940C8P68K-F         | .965 (24.5)  | 1.339 (34.0) | .047 (1.2)  | 4             | 26          | 713        | 485    | 12.0                   |
| 1.00                     | 940C8W1K-F          | .886 (22.5)  | 1.811 (46.0) | .047 (1.2)  | 5             | 30          | 400        | 400    | 11.5                   |
| 1.50                     | 940C8W1P5K-F        | 1.063 (27.0) | 1.811 (46.0) | .047 (1.2)  | 4             | 32          | 400        | 600    | 14.3                   |
| 2.00                     | 940C8W2K-F          | 1.201 (30.5) | 1.811 (46.0) | .047 (1.2)  | 3             | 34          | 400        | 800    | 17.9                   |
| 2.20                     | 940C8W2P2K-F        | 1.260 (32.0) | 1.811 (46.0) | .047 (1.2)  | 3             | 34          | 400        | 880    | 18.4                   |
| 2.50                     | 940C8W2P5K-F        | 1.339 (34.0) | 1.811 (46.0) | .047 (1.2)  | 3             | 35          | 400        | 1000   | 19.1                   |

# Type 940C High dV/dt, Round Polypropylene Film Capacitors

## Ratings

| Cap.<br>(μF)              | Catalog<br>Part Number | D      |        | L      |        | d      |       | Typical<br>ESR | Typical<br>ESL | dV/dt | I peak | I <sub>RMS</sub><br>70 °C<br>100 kHz |
|---------------------------|------------------------|--------|--------|--------|--------|--------|-------|----------------|----------------|-------|--------|--------------------------------------|
|                           |                        | Inches | (mm)   | Inches | (mm)   | Inches | (mm)  | (mΩ)           | (nH)           | V/μs  | (A)    | (A)                                  |
| <b>1000 Vdc (500 Vac)</b> |                        |        |        |        |        |        |       |                |                |       |        |                                      |
| .15                       | 940C10P15K-F           | .591   | (15.0) | 1.339  | (34.0) | .040   | (1.0) | 7              | 22             | 856   | 128    | 6.7                                  |
| .22                       | 940C10P22K-F           | .689   | (17.5) | 1.339  | (34.0) | .040   | (1.0) | 7              | 23             | 856   | 188    | 7.4                                  |
| .33                       | 940C10P33K-F           | .807   | (20.5) | 1.339  | (34.0) | .040   | (1.0) | 6              | 24             | 856   | 283    | 8.8                                  |
| .47                       | 940C10P47K-F           | .945   | (24.0) | 1.339  | (34.0) | .047   | (1.2) | 5              | 26             | 856   | 402    | 10.6                                 |
| .68                       | 940C10P68K-F           | 1.102  | (28.0) | 1.339  | (34.0) | .047   | (1.2) | 5              | 27             | 856   | 582    | 11.7                                 |
| 1.00                      | 940C10W1K-F            | 1.024  | (26.0) | 1.811  | (46.0) | .047   | (1.2) | 5              | 32             | 480   | 480    | 12.5                                 |
| 1.50                      | 940C10W1P5K-F          | 1.220  | (31.0) | 1.811  | (46.0) | .047   | (1.2) | 4              | 34             | 480   | 720    | 15.6                                 |
| 2.00                      | 940C10W2K-F            | 1.398  | (35.5) | 1.811  | (46.0) | .047   | (1.2) | 3              | 36             | 480   | 960    | 19.6                                 |
| <b>1200 Vdc (500 Vac)</b> |                        |        |        |        |        |        |       |                |                |       |        |                                      |
| .10                       | 940C12P1K-F            | .610   | (15.5) | 1.339  | (34.0) | .040   | (1.0) | 9              | 22             | 1142  | 114    | 6.1                                  |
| .15                       | 940C12P15K-F           | .728   | (18.5) | 1.339  | (34.0) | .040   | (1.0) | 7              | 23             | 1142  | 171    | 7.6                                  |
| .22                       | 940C12P22K-F           | .846   | (21.5) | 1.339  | (34.0) | .040   | (1.0) | 7              | 24             | 1142  | 251    | 8.4                                  |
| .33                       | 940C12P33K-F           | .787   | (20.0) | 1.811  | (46.0) | .040   | (1.0) | 7              | 29             | 640   | 211    | 9.0                                  |
| .47                       | 940C12P47K-F           | .906   | (23.0) | 1.811  | (46.0) | .047   | (1.2) | 7              | 30             | 640   | 301    | 9.8                                  |
| .68                       | 940C12P68K-F           | 1.063  | (27.0) | 1.811  | (46.0) | .047   | (1.2) | 6              | 32             | 640   | 435    | 11.7                                 |
| 1.00                      | 940C12W1K-F            | 1.299  | (33.0) | 1.811  | (46.0) | .047   | (1.2) | 5              | 35             | 640   | 640    | 14.5                                 |
| 1.50                      | 940C12W1P5K-F          | 1.378  | (35.0) | 2.126  | (54.0) | .047   | (1.2) | 4              | 39             | 502   | 754    | 17.9                                 |
| <b>1600 Vdc (630 Vac)</b> |                        |        |        |        |        |        |       |                |                |       |        |                                      |
| .10                       | 940C16P1K-F            | .709   | (18.0) | 1.339  | (34.0) | .040   | (1.0) | 7              | 23             | 1427  | 143    | 7.5                                  |
| .15                       | 940C16P15K-F           | .846   | (21.5) | 1.339  | (34.0) | .040   | (1.0) | 5              | 24             | 1427  | 214    | 9.9                                  |
| .22                       | 940C16P22K-F           | 1.004  | (25.5) | 1.339  | (34.0) | .047   | (1.2) | 7              | 26             | 1427  | 314    | 9.3                                  |
| .33                       | 940C16P33K-F           | .925   | (23.5) | 1.811  | (46.0) | .047   | (1.2) | 7              | 31             | 800   | 264    | 10.0                                 |
| .47                       | 940C16P47K-F           | 1.083  | (27.5) | 1.811  | (46.0) | .047   | (1.2) | 6              | 32             | 800   | 376    | 11.8                                 |
| .68                       | 940C16P68K-F           | 1.280  | (32.5) | 1.811  | (46.0) | .047   | (1.2) | 6              | 35             | 800   | 544    | 13.1                                 |
| 1.00                      | 940C16W1K-F            | 1.535  | (39.0) | 1.811  | (46.0) | .047   | (1.2) | 5              | 37             | 800   | 800    | 16.2                                 |
| 1.50                      | 940C16W1P5K-F          | 1.654  | (42.0) | 2.126  | (54.0) | .047   | (1.2) | 4              | 42             | 628   | 942    | 20.1                                 |
| <b>2000 Vdc (630 Vac)</b> |                        |        |        |        |        |        |       |                |                |       |        |                                      |
| .022                      | 940C20S22K-F           | .453   | (11.5) | 1.339  | (34.0) | .032   | (.8)  | 35             | 6              | 1712  | 38     | 2.6                                  |
| .033                      | 940C20S33K-F           | .531   | (13.5) | 1.339  | (34.0) | .032   | (.8)  | 20             | 21             | 1712  | 57     | 3.8                                  |
| .047                      | 940C20S47K-F           | .591   | (15.0) | 1.339  | (34.0) | .040   | (1.0) | 12             | 22             | 1712  | 80     | 5.2                                  |
| .068                      | 940C20S68K-F           | .689   | (17.5) | 1.339  | (34.0) | .040   | (1.0) | 8              | 23             | 1712  | 116    | 6.9                                  |
| .100                      | 940C20P1K-F            | .827   | (21.0) | 1.339  | (34.0) | .040   | (1.0) | 7              | 24             | 1712  | 171    | 8.3                                  |
| .150                      | 940C20P15K-F           | .768   | (19.5) | 1.811  | (46.0) | .040   | (1.0) | 7              | 29             | 960   | 144    | 8.9                                  |
| .220                      | 940C20P22K-F           | .866   | (22.0) | 1.811  | (46.0) | .040   | (1.0) | 8              | 30             | 960   | 211    | 9.0                                  |
| .330                      | 940C20P33K-F           | 1.063  | (27.0) | 1.811  | (46.0) | .047   | (1.2) | 8              | 32             | 960   | 317    | 10.1                                 |
| .470                      | 940C20P47K-F           | 1.260  | (32.0) | 1.811  | (46.0) | .047   | (1.2) | 6              | 34             | 960   | 451    | 13.0                                 |
| .560                      | 940C20P56K-F           | 1.220  | (31.0) | 2.126  | (54.0) | .047   | (1.2) | 7              | 37             | 754   | 422    | 12.6                                 |
| .680                      | 940C20P68K-F           | 1.339  | (34.0) | 2.126  | (54.0) | .047   | (1.2) | 6              | 39             | 754   | 513    | 14.3                                 |
| 1.00                      | 940C20W1K-F            | 1.614  | (41.0) | 2.126  | (54.0) | .047   | (1.2) | 5              | 42             | 754   | 754    | 17.7                                 |
| <b>3000 Vdc (750 Vac)</b> |                        |        |        |        |        |        |       |                |                |       |        |                                      |
| .010                      | 940C30S1K-F            | 0.453  | (11.5) | 1.339  | (34.0) | .032   | (.8)  | 60             | 20             | 2568  | 26     | 2.0                                  |
| .015                      | 940C30S15K-F           | 0.531  | (13.5) | 1.339  | (34.0) | .032   | (.8)  | 40             | 21             | 2568  | 39     | 2.7                                  |
| .022                      | 940C30S22K-F           | 0.61   | (15.5) | 1.339  | (34.0) | .040   | (1.0) | 25             | 22             | 2568  | 57     | 3.6                                  |
| .033                      | 940C30S33K-F           | 0.709  | (18.0) | 1.339  | (34.0) | .040   | (1.0) | 14             | 23             | 2568  | 85     | 5.3                                  |
| .047                      | 940C30S47K-F           | 0.65   | (16.5) | 1.811  | (46.0) | .040   | (1.0) | 14             | 28             | 1440  | 68     | 5.7                                  |
| .068                      | 940C30S68K-F           | 0.748  | (19.0) | 1.811  | (46.0) | .040   | (1.0) | 12             | 29             | 1440  | 98     | 6.7                                  |
| .100                      | 940C30P1K-F            | 0.886  | (22.5) | 1.811  | (46.0) | .047   | (1.2) | 10             | 30             | 1440  | 144    | 8.1                                  |
| .150                      | 940C30P15K-F           | 1.063  | (27.0) | 1.811  | (46.0) | .047   | (1.2) | 8              | 32             | 1440  | 216    | 10.1                                 |