

# MYLAR/POLYESTER FILM

## MLR SERIES

The MLR series is a range of radial lead non-polarized polyester film (Mylar) capacitors dipped in a hard epoxy coating material to provide excellent protection against moisture. These devices are intended for general purpose DC applications.

### RATINGS

**Capacitance Range:** .001 $\mu$ f to 5.6 $\mu$ f

**Voltage Range:** 50V to 630V DC (35V to 250V AC)

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

**Withstand Voltage:** 175%

### PERFORMANCE SPECIFICATIONS

**Operating Temperature Range:**

-55°C to +85°C (-67°F to +185°F)

**Dissipation Factor:** 1% Max

**Capacitance Tolerance (K):**  $\pm 10\%$

measured @ +25°C (+77°F), 1kHz, for values up to and including 1 $\mu$ f

measured @ +25°C (+77°F), 120Hz, for values above 1 $\mu$ f

**Insulation Resistance:**

50V & 100V, .001 $\mu$ f – .1 $\mu$ f = 30,000M $\Omega$  Min

.12 $\mu$ f – 2.2 $\mu$ f = 10,000M $\Omega$  Min

250V, .01 $\mu$ f – 5.6 $\mu$ f = 10,000M $\Omega$  Min

400V, .0047 $\mu$ f – 4.0 $\mu$ f = 10,000M $\Omega$  Min

630V, .001 $\mu$ f – .008 $\mu$ f = 100,000M $\Omega$  Min

.01 $\mu$ f – 3.0 $\mu$ f = 10,000M $\Omega$  Min

**Life Test:** 1000Hrs @ +85°C (+185°F)

at 150% rated voltage

### ORDERING INFORMATION

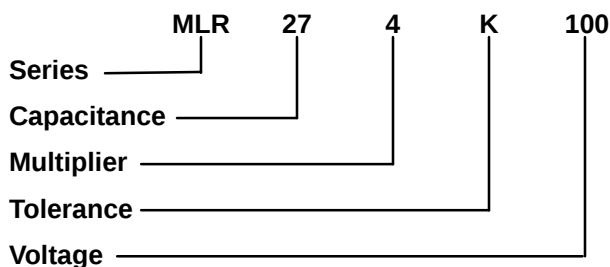
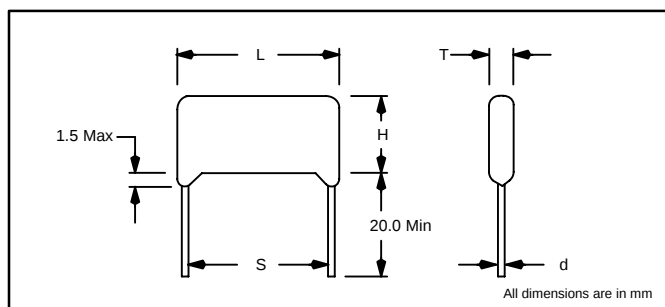


FIGURE 1



### MECHANICAL SPECIFICATIONS (Figure 1) 50 Volt (35VAC) Series Dimensions (mm)

| Cap $\mu$ f | Code | T   | H    | L    | S              | d   |
|-------------|------|-----|------|------|----------------|-----|
| .001        | 102  | 3.0 | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0033       | 332  | 3.0 | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .01         | 103  | 3.0 | 7.5  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .012        | 123  | 3.0 | 9.0  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .018        | 183  | 3.5 | 9.0  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .027        | 273  | 4.0 | 9.5  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .033        | 333  | 4.0 | 9.5  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .039        | 393  | 4.5 | 9.5  | 7.5  | 5.0 $\pm 1.5$  | 0.5 |
| .047        | 473  | 4.5 | 9.5  | 7.5  | 5.0 $\pm 1.5$  | 0.5 |
| .1          | 104  | 5.5 | 10.5 | 9.0  | 5.0 $\pm 1.5$  | 0.5 |
| .15         | 154  | 6.0 | 10.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .27         | 274  | 6.0 | 11.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .33         | 334  | 6.0 | 12.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| 1.0         | 105  | 9.0 | 15.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |

### 100 Volt (65VAC) Series Dimensions (mm)

| Cap $\mu$ f | Code | T    | H    | L    | S              | d   |
|-------------|------|------|------|------|----------------|-----|
| .001        | 102  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0012       | 122  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0015       | 152  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0018       | 182  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .002        | 202  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0022       | 222  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0027       | 272  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0033       | 332  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0039       | 392  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0047       | 472  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0056       | 562  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0068       | 682  | 3.0  | 7.5  | 5.5  | 3.5 $\pm 1.0$  | 0.5 |
| .0082       | 822  | 3.0  | 7.5  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .01         | 103  | 3.0  | 7.5  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .012        | 123  | 3.0  | 9.0  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .015        | 153  | 3.0  | 9.0  | 6.0  | 3.5 $\pm 1.0$  | 0.5 |
| .018        | 183  | 3.5  | 9.0  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .022        | 223  | 3.5  | 9.0  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .027        | 273  | 4.0  | 9.5  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .033        | 333  | 4.0  | 9.5  | 6.5  | 3.5 $\pm 1.0$  | 0.5 |
| .039        | 393  | 4.5  | 9.5  | 7.5  | 5.0 $\pm 1.5$  | 0.5 |
| .047        | 473  | 4.5  | 9.5  | 7.5  | 5.0 $\pm 1.5$  | 0.5 |
| .056        | 563  | 4.5  | 10.5 | 8.0  | 5.0 $\pm 1.5$  | 0.5 |
| .068        | 683  | 4.5  | 10.5 | 8.0  | 5.0 $\pm 1.5$  | 0.5 |
| .082        | 823  | 5.5  | 10.5 | 9.0  | 5.0 $\pm 1.5$  | 0.5 |
| .1          | 104  | 5.5  | 10.5 | 9.0  | 5.0 $\pm 1.5$  | 0.5 |
| .12         | 124  | 6.0  | 12.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .15         | 154  | 6.0  | 10.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .18         | 184  | 6.0  | 10.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .22         | 224  | 6.0  | 10.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .27         | 274  | 6.0  | 11.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .33         | 334  | 6.0  | 12.0 | 14.0 | 10.0 $\pm 1.5$ | 0.6 |
| .39         | 394  | 6.0  | 12.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| .47         | 474  | 6.0  | 12.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| .56         | 564  | 7.0  | 14.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| .68         | 684  | 7.0  | 14.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| .82         | 824  | 9.0  | 15.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| 1.0         | 105  | 9.0  | 15.0 | 18.0 | 15.0 $\pm 1.5$ | 0.6 |
| 2.2         | 225  | 11.0 | 20.0 | 24.0 | 20.0 $\pm 1.5$ | 0.8 |

# MYLAR/POLYESTER FILM

## MLR SERIES

**250 Volt (125VAC) Series Dimensions (mm)**

| Cap $\mu$ f | Code | T    | H    | L    | S              | d   |
|-------------|------|------|------|------|----------------|-----|
| .01         | 103  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .015        | 153  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .022        | 223  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .027        | 273  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .033        | 333  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .047        | 473  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .068        | 683  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .082        | 823  | 7.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .1          | 104  | 7.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .12         | 124  | 7.0  | 11.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .15         | 154  | 7.0  | 11.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .18         | 184  | 7.0  | 12.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .22         | 224  | 7.0  | 12.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .27         | 274  | 7.0  | 13.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .33         | 334  | 7.0  | 13.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .39         | 394  | 8.0  | 15.0 | 18.0 | 15 $\pm$ 1.5   | 0.8 |
| .47         | 474  | 8.0  | 15.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .56         | 564  | 9.0  | 15.5 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .68         | 684  | 9.0  | 15.5 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .82         | 824  | 10.0 | 17.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| 1.0         | 105  | 10.0 | 17.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| 1.2         | 125  | 10.0 | 19.5 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| 1.5         | 155  | 10.0 | 19.5 | 31.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 1.8         | 185  | 11.0 | 20.0 | 31.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 2.2         | 225  | 13.0 | 22.0 | 31.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 3.3         | 335  | 16.0 | 26.0 | 31.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 4.7         | 475  | 16.0 | 26.0 | 35.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 5.6         | 565  | 16.0 | 26.0 | 35.0 | 27.5 $\pm$ 1.5 | 0.8 |

**400 Volt (200VAC) Series Dimensions (mm)**

| Cap $\mu$ f | Code | T    | H    | L    | S              | d   |
|-------------|------|------|------|------|----------------|-----|
| .0047       | 472  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .01         | 103  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .015        | 153  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .022        | 223  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .033        | 333  | 6.0  | 10.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .047        | 473  | 8.0  | 11.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .056        | 563  | 8.0  | 13.0 | 14.0 | 10 $\pm$ 1.5   | 0.6 |
| .068        | 683  | 6.0  | 13.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .082        | 823  | 6.0  | 13.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .1          | 104  | 6.0  | 13.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .12         | 124  | 7.0  | 14.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .15         | 154  | 7.0  | 14.0 | 18.0 | 15 $\pm$ 1.5   | 0.6 |
| .18         | 184  | 8.0  | 16.0 | 18.0 | 15 $\pm$ 1.5   | 0.8 |
| .22         | 224  | 8.0  | 16.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .27         | 274  | 9.0  | 16.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .33         | 334  | 9.0  | 16.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .39         | 394  | 9.5  | 17.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .47         | 474  | 10.0 | 18.0 | 24.0 | 20 $\pm$ 1.5   | 0.8 |
| .56         | 564  | 10.5 | 18.0 | 30.0 | 27.5 $\pm$ 1.5 | 0.8 |
| .68         | 684  | 10.5 | 18.0 | 30.0 | 27.5 $\pm$ 1.5 | 0.8 |
| .82         | 824  | 12.0 | 22.0 | 30.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 1.0         | 105  | 12.0 | 22.0 | 30.0 | 27.5 $\pm$ 1.5 | 0.8 |
| 1.5         | 155  | 15.0 | 24.5 | 30.0 | 26.5 $\pm$ 1.5 | 0.8 |
| 2.0         | 205  | 18.0 | 26.5 | 30.0 | 26.5 $\pm$ 1.5 | 0.8 |
| 3.0         | 305  | 19.0 | 28.5 | 37.0 | 31 $\pm$ 1.5   | 0.8 |
| 4.0         | 405  | 23.5 | 32.0 | 37.0 | 31 $\pm$ 1.5   | 0.8 |

**630 Volt (250VAC) Series Dimensions (mm)**

| Cap $\mu$ f | Code | T     | H     | L     | S               | d   |
|-------------|------|-------|-------|-------|-----------------|-----|
| .001        | 102  | 5.54  | 8.28  | 17.63 | 13.84 $\pm$ 1.3 | 0.6 |
| .0012       | 122  | 5.87  | 8.62  | 17.63 | 13.84 $\pm$ 1.3 | 0.6 |
| .0015       | 152  | 5.61  | 8.36  | 17.63 | 13.84 $\pm$ 1.3 | 0.6 |
| .0018       | 182  | 5.95  | 8.69  | 17.63 | 13.84 $\pm$ 1.3 | 0.6 |
| .0022       | 222  | 6.38  | 9.12  | 17.63 | 13.84 $\pm$ 1.3 | 0.6 |
| .0025       | 252  | 7.12  | 9.61  | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0027       | 272  | 7.12  | 9.61  | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .003        | 302  | 6.38  | 9.55  | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0033       | 332  | 6.38  | 9.55  | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0039       | 392  | 6.76  | 9.94  | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0047       | 472  | 7.20  | 10.39 | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .005        | 502  | 7.68  | 10.85 | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0056       | 562  | 7.68  | 10.85 | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0068       | 682  | 7.95  | 11.79 | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .0082       | 822  | 8.53  | 12.37 | 17.63 | 13.84 $\pm$ 1.3 | 0.8 |
| .01         | 103  | 6.00  | 10.00 | 14.00 | 10.00 $\pm$ 1.5 | 0.6 |
| .012        | 123  | 6.00  | 11.00 | 14.00 | 10.00 $\pm$ 1.5 | 0.6 |
| .015        | 153  | 6.50  | 11.50 | 14.00 | 10.00 $\pm$ 1.5 | 0.6 |
| .018        | 183  | 7.00  | 12.00 | 14.00 | 10.00 $\pm$ 1.5 | 0.6 |
| .022        | 223  | 7.00  | 12.50 | 14.00 | 10.00 $\pm$ 1.5 | 0.6 |
| .027        | 273  | 6.00  | 11.00 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .033        | 333  | 7.00  | 12.00 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .039        | 393  | 7.00  | 12.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .047        | 473  | 7.50  | 12.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .05         | 503  | 7.50  | 12.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .056        | 563  | 8.50  | 14.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .068        | 683  | 8.50  | 14.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.6 |
| .082        | 823  | 9.00  | 15.50 | 18.00 | 15.00 $\pm$ 1.5 | 0.8 |
| .1          | 104  | 9.00  | 14.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .12         | 124  | 10.00 | 17.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .15         | 154  | 10.00 | 17.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .18         | 184  | 11.00 | 20.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .22         | 224  | 11.00 | 20.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .25         | 254  | 11.00 | 20.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .27         | 274  | 12.00 | 20.00 | 24.00 | 20.00 $\pm$ 1.5 | 0.8 |
| .33         | 334  | 11.00 | 20.00 | 24.00 | 27.50 $\pm$ 1.5 | 0.8 |
| .39         | 394  | 13.00 | 22.00 | 30.00 | 27.50 $\pm$ 1.5 | 0.8 |
| .47         | 474  | 13.00 | 22.00 | 30.00 | 27.50 $\pm$ 1.5 | 0.8 |
| .5          | 504  | 13.00 | 22.00 | 30.00 | 27.50 $\pm$ 1.5 | 0.8 |
| .56         | 564  | 14.00 | 23.00 | 31.00 | 27.50 $\pm$ 1.5 | 0.8 |
| .68         | 684  | 15.00 | 26.00 | 31.00 | 27.50 $\pm$ 1.5 | 0.8 |
| 1.0         | 105  | 17.00 | 30.00 | 31.00 | 27.50 $\pm$ 1.5 | 0.8 |
| 1.5         | 155  | 20.00 | 30.00 | 37.00 | 31.00 $\pm$ 1.5 | 0.8 |
| 1.8         | 185  | 19.00 | 28.00 | 46.00 | 41.00 $\pm$ 1.5 | 0.8 |
| 2.0         | 205  | 20.50 | 30.00 | 46.00 | 41.00 $\pm$ 1.5 | 0.8 |
| 3.0         | 305  | 21.00 | 35.00 | 45.00 | 38.00 $\pm$ 1.5 | 0.8 |