



# MMR

## Metallized Polyester Film Capacitors

Radial Leaded, Epoxy Dipped



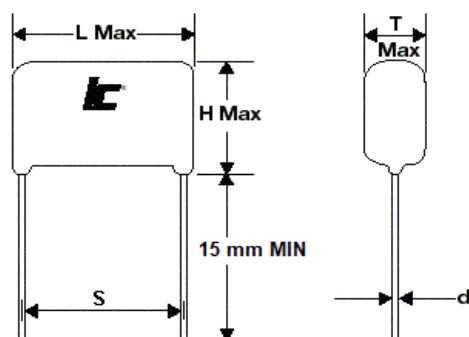
### FEATURES

Small Size - High Voltage - General Purpose

### APPLICATIONS

General Purpose - Bypass - Coupling - Blocking

|                                                                            |                                                             |     |                       |                                 |     |  |
|----------------------------------------------------------------------------|-------------------------------------------------------------|-----|-----------------------|---------------------------------|-----|--|
| Operating Temperature Range                                                | -40°C to +105°C                                             |     |                       |                                 |     |  |
| Capacitance Tolerance                                                      | ±10% at 1 kHz, 25°C<br>+5% optional                         |     |                       |                                 |     |  |
| Peak, AC voltage (50/60 Hz)                                                | WVDC                                                        | 100 | 250                   | 400                             | 630 |  |
|                                                                            | VAC                                                         | 63  | 160                   | 200                             | 220 |  |
|                                                                            | For T>+85°C , The voltage must be decreased by 1.25% per °C |     |                       |                                 |     |  |
| Dissipation Factor (MAX)<br>25°C                                           | Frequency (kHz)                                             |     | Dissipation Factor    |                                 |     |  |
|                                                                            | 1                                                           |     | 1.0%                  |                                 |     |  |
|                                                                            | 10                                                          |     | 1.5%                  |                                 |     |  |
| Insulation Resistance<br>@25°C (<70% RH) for 1 minute at<br>100VDC applied | Capacitance                                                 |     | Insulation Resistance |                                 |     |  |
|                                                                            | ≤0.33μF                                                     |     | 9000 MΩ               |                                 |     |  |
|                                                                            | >0.33μF                                                     |     | 3000 MΩxμF            |                                 |     |  |
| Load Life                                                                  | 2000 Hours, +85C with 125% of rated voltage                 |     |                       |                                 |     |  |
|                                                                            | Capacitance Change                                          |     |                       | ≤5% of initially measured value |     |  |
|                                                                            | Dissipation Factor                                          |     |                       | ≤0.005 at 1kHz and 25°C         |     |  |
|                                                                            | Insulation Resistance                                       |     |                       | ≥50% of maximum specified value |     |  |
| Damp Heat test                                                             | 1000 Hours, 93%RH (+/-2%), +40°C and no voltage applied     |     |                       |                                 |     |  |
|                                                                            | Capacitance Change                                          |     |                       | ≤5% of initially measured value |     |  |
|                                                                            | Dissipation Factor                                          |     |                       | ≤0.005 at 1kHz and 25°C         |     |  |
|                                                                            | Insulation Resistance                                       |     |                       | ≥50% of maximum specified value |     |  |
| Self Inductance                                                            | <1 nano-Henry per mm of body length and lead length         |     |                       |                                 |     |  |
| Capacitance Drift Factor                                                   | <1.0% after 2 years at 40°C                                 |     |                       |                                 |     |  |
| Capacitance Temperature Coefficient                                        | +400 ppm/°C, ±200ppm/°C                                     |     |                       |                                 |     |  |
| Dielectric Strength                                                        | Terminal to Terminal                                        |     |                       |                                 |     |  |
|                                                                            | 160% of VDC applied for 2 Seconds and 25°C                  |     |                       |                                 |     |  |
| Dielectric                                                                 | Polyester                                                   |     |                       |                                 |     |  |
| Construction                                                               | Metallized film                                             |     |                       |                                 |     |  |
| Coating                                                                    | Flame Retardant epoxy resin (UL94V0)                        |     |                       |                                 |     |  |
| Leads                                                                      | Lead free tinned copper leads                               |     |                       |                                 |     |  |



|         |      |     |      |      |      |
|---------|------|-----|------|------|------|
| L MAX   | 10.5 | 12  | 18.5 | 26   | 31   |
| S+1.0   | 7.5  | 10  | 15   | 22.5 | 27.5 |
| G MAX   | 1.5  | 1.5 | 1.5  | 1.5  | 1.5  |
| d +0.05 | 0.6  | 0.6 | 0.8  | 0.8  | 0.8  |

# MMR

Small Size Epoxy Dipped  
Metallized Polyester Radial  
Lead

| Capacitance (μF) | WVDC | IC PART NUMBER             | dv/dt (v/μ sec.) | Dims LxHxT (mm) | S (MM) | d (MM) |
|------------------|------|----------------------------|------------------|-----------------|--------|--------|
| 0.01             | 250  | <a href="#">103MMR250K</a> | 80               | 10.3x7.4x4.3    | 7.5    | 0.6    |
| 0.01             | 400  | <a href="#">103MMR400K</a> | 190              | 10.3x7.4x4.3    | 7.5    | 0.6    |
| 0.01             | 630  | <a href="#">103MMR630K</a> | 200              | 12x7.5x4.5      | 10     | 0.6    |
| 0.015            | 250  | <a href="#">153MMR250K</a> | 80               | 10.3x7.5x4.4    | 7.5    | 0.6    |
| 0.015            | 400  | <a href="#">153MMR400K</a> | 190              | 10.3x7.5x4.4    | 7.5    | 0.6    |
| 0.015            | 630  | <a href="#">153MMR630K</a> | 200              | 12x8.2x5        | 10     | 0.6    |
| 0.022            | 250  | <a href="#">223MMR250K</a> | 80               | 10.3x7.5x4.4    | 7.5    | 0.6    |
| 0.022            | 400  | <a href="#">223MMR400K</a> | 190              | 10.3x7.9x4.8    | 7.5    | 0.6    |
| 0.022            | 630  | <a href="#">223MMR630K</a> | 200              | 12x10.5x5.3     | 10     | 0.6    |
| 0.033            | 250  | <a href="#">333MMR250K</a> | 80               | 10.3x7.5x4.5    | 7.5    | 0.6    |
| 0.033            | 400  | <a href="#">333MMR400K</a> | 190              | 10.3x9x6        | 7.5    | 0.6    |
| 0.033            | 630  | <a href="#">333MMR630K</a> | 200              | 12x11.9x6       | 10     | 0.6    |
| 0.047            | 250  | <a href="#">473MMR250K</a> | 80               | 10.3x7.5x4.5    | 7.5    | 0.6    |
| 0.047            | 400  | <a href="#">473MMR400K</a> | 160              | 12x8.3x5        | 10     | 0.6    |
| 0.047            | 630  | <a href="#">473MMR630K</a> | 200              | 12x13.5x6.5     | 10     | 0.6    |
| 0.068            | 250  | <a href="#">683MMR250K</a> | 80               | 10.3x7.5x4.5    | 7.5    | 0.6    |
| 0.068            | 400  | <a href="#">683MMR400K</a> | 160              | 12x10.5x5.4     | 10     | 0.6    |
| 0.068            | 630  | <a href="#">683MMR630K</a> | 90               | 18.5x11x5.8     | 15     | 0.8    |
| 0.1              | 250  | <a href="#">104MMR250K</a> | 80               | 10.3x8.4x5.8    | 7.5    | 0.6    |
| 0.1              | 400  | <a href="#">104MMR400K</a> | 160              | 12x12x6.3       | 10     | 0.6    |
| 0.1              | 630  | <a href="#">104MMR630K</a> | 90               | 18.5x14x6.3     | 15     | 0.8    |
| 0.15             | 100  | <a href="#">154MMR100K</a> | 35               | 10.3x7.5x4.5    | 7.5    | 0.6    |
| 0.15             | 250  | <a href="#">154MMR250K</a> | 80               | 10.3x10.8x6     | 7.5    | 0.6    |
| 0.15             | 400  | <a href="#">154MMR400K</a> | 65               | 18.5x12.4x5     | 15     | 0.8    |
| 0.15             | 630  | <a href="#">154MMR630K</a> | 90               | 18.5x15.4x7.5   | 15     | 0.8    |
| 0.22             | 100  | <a href="#">224MMR100K</a> | 35               | 10.3x8x5        | 7.5    | 0.6    |
| 0.22             | 250  | <a href="#">224MMR250K</a> | 110              | 12x10.5x5.5     | 10     | 0.6    |
| 0.22             | 400  | <a href="#">224MMR400K</a> | 65               | 18.5x13x5.9     | 15     | 0.8    |
| 0.22             | 630  | <a href="#">224MMR630K</a> | 90               | 18.5x16.5x9     | 15     | 0.8    |
| 0.33             | 100  | <a href="#">334MMR100K</a> | 35               | 10.3x10.7x6     | 7.5    | 0.6    |
| 0.33             | 250  | <a href="#">334MMR250K</a> | 110              | 12x12x6.5       | 10     | 0.6    |
| 0.33             | 400  | <a href="#">334MMR400K</a> | 65               | 18.5x14.9x7     | 15     | 0.8    |

| Capacitance (μF) | WVDC | IC PART NUMBER             | dv/dt (v/μ sec.) | Dims LxHxT (mm) | S (MM) | d (MM) |
|------------------|------|----------------------------|------------------|-----------------|--------|--------|
| 0.33             | 630  | <a href="#">334MMR630K</a> | 35               | 26x17x7.8       | 22.5   | 0.8    |
| 0.47             | 250  | <a href="#">474MMR250K</a> | 45               | 18.5x12.5x5.3   | 15     | 0.8    |
| 0.47             | 400  | <a href="#">474MMR400K</a> | 65               | 18.5x17x7.8     | 15     | 0.8    |
| 0.47             | 630  | <a href="#">474MMR630K</a> | 35               | 26x18.5x9.3     | 22.5   | 0.8    |
| 0.68             | 100  | <a href="#">684MMR100K</a> | 0                | 12x13x6         | 10     | 0.6    |
| 0.68             | 250  | <a href="#">684MMR250K</a> | 45               | 18.5x13.5x6     | 15     | 0.8    |
| 0.68             | 400  | <a href="#">684MMR400K</a> | 30               | 26x16.5x7       | 22.5   | 0.8    |
| 0.68             | 630  | <a href="#">684MMR630K</a> | 35               | 26x21x11.5      | 22.5   | 0.8    |
| 1                | 100  | <a href="#">105MMR100K</a> | 30               | 12x14x6.7       | 10     | 0.6    |
| 1                | 250  | <a href="#">105MMR250K</a> | 45               | 18.5x15x7.4     | 15     | 0.8    |
| 1                | 400  | <a href="#">105MMR400K</a> | 30               | 26x18x8.5       | 22.5   | 0.8    |
| 1                | 630  | <a href="#">105MMR630K</a> | 30               | 31x21.9x12.5    | 27.5   | 0.8    |
| 1.5              | 100  | <a href="#">155MMR100K</a> | 20               | 18.5x13.4x6     | 15     | 0.8    |
| 1.5              | 250  | <a href="#">155MMR250K</a> | 45               | 18.5x16.8x9     | 15     | 0.8    |
| 1.5              | 400  | <a href="#">155MMR400K</a> | 25               | 31x19x9.5       | 27.5   | 0.8    |
| 1.5              | 630  | <a href="#">155MMR630K</a> | 30               | 31x24.7x15.3    | 27.5   | 0.8    |
| 2.2              | 100  | <a href="#">225MMR100K</a> | 20               | 18.5x15x7       | 15     | 0.8    |
| 2.2              | 250  | <a href="#">225MMR250K</a> | 20               | 26x16.3x8.5     | 22.5   | 0.8    |
| 2.2              | 400  | <a href="#">225MMR400K</a> | 25               | 31x22x11        | 27.5   | 0.8    |
| 2.2              | 630  | <a href="#">225MMR630K</a> | 30               | 31x29x19.5      | 27.5   | 0.8    |
| 3.3              | 100  | <a href="#">335MMR100K</a> | 20               | 18.5x16.5x8.5   | 15     | 0.8    |
| 3.3              | 250  | <a href="#">335MMR250K</a> | 20               | 26x18x10.3      | 22.5   | 0.8    |
| 4.7              | 100  | <a href="#">475MMR100K</a> | 10               | 26x17x7.5       | 22.5   | 0.8    |
| 4.7              | 250  | <a href="#">475MMR250K</a> | 20               | 26x21.5x12      | 22.5   | 0.8    |
| 5.6              | 100  | <a href="#">565MMR100K</a> | 10               | 26x18.5x8.3     | 22.5   | 0.8    |
| 5.6              | 250  | <a href="#">565MMR250K</a> | 15               | 31x22x11.8      | 27.5   | 0.8    |
| 6.8              | 100  | <a href="#">685MMR100K</a> | 10               | 26x18.5x9       | 22.5   | 0.8    |
| 6.8              | 250  | <a href="#">685MMR250K</a> | 15               | 31x22.4x13      | 27.5   | 0.8    |
| 8.2              | 100  | <a href="#">825MMR100K</a> | 10               | 26x21x10        | 22.5   | 0.8    |
| 8.2              | 250  | <a href="#">825MMR250K</a> | 15               | 31x24.5x14.3    | 27.5   | 0.8    |
| 10               | 100  | <a href="#">106MMR100K</a> | 10               | 26x21x11.5      | 22.5   | 0.8    |
| 10               | 250  | <a href="#">106MMR250K</a> | 15               | 31x25.8x15.9    | 27.5   | 0.8    |