



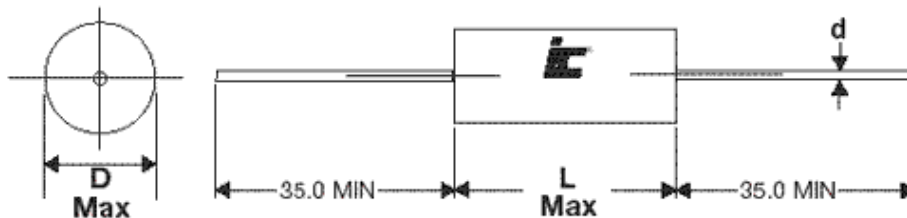
FEATURES

Small Size - Good dvdt - Medium Current

APPLICATIONS

General Purpose AC/DC - AC/DC Motor Controls - Switching Power Supplies

| | | | | | | | | | | | |
|--|--------------|--|------------|----------------------|------------|------------|--|------------|------|------------|------|
| Operating Temperature Range | | -40°C to +85°C | | | | | | | | | |
| Capacitance Tolerance | | ±10% at 1 kHz, 25°C +5% optional | | | | | | | | | |
| Peak, AC voltage (50/60 Hz) | WVDC | 370 | 500 | 600 | 700 | 800 | | | | | |
| | SVDC | 470 | 625 | 750 | 875 | 1050 | | | | | |
| | VAC | 160 | 275/320 | 320/400 | 400/440 | 400/500 | | | | | |
| Dissipation Factor (MAX) Tan δ at 1 kHz and 25°C | | C≤2.5uF | | 2.5<C≤20uF | | | C>20uF | | | | |
| | | .0007 | | .0012 | | | .0016 | | | | |
| Insulation Resistance @25°C (<70% RH) for 1 minute at 100VDC applied | | 15000 MΩxμF | | | | | | | | | |
| Self Inductance | | <1 nano-Henry per mm of body length and lead length | | | | | | | | | |
| Dielectric Strength | | Terminal to Terminal | | | | | Terminal to Case | | | | |
| | | 200% of VDC or VAC applied for 10 Seconds and 25°C | | | | | 3kVAC (50/60 Hz) applied for 60 Seconds and 25°C | | | | |
| Damp Heat | | 56 days with no voltage applied at +40C and 93%(+2%) relative humidity | | | | | | | | | |
| | | Capacitance Change | | | | | <+2% of initially measured value | | | | |
| | | Dissipation Factor | | | | | <.001 at 1 kHz for C>0.1uF | | | | |
| | | Insulation Resistance | | | | | >50% of minimum specified value | | | | |
| Reliability | WVDC | 370 | | 500 | | 600 | | 700 | | 800 | |
| | VAC | 160 | 200 | 275 | 320 | 320 | 400 | 400 | 440 | 400 | 500 |
| | Hours | 10000 | 1000 | 10000 | 1000 | 10000 | 3000 | 10000 | 1000 | 10000 | 1000 |
| Failure quota | | 500/10 ⁹ component hours | | | | | | | | | |
| Construction | | metallized film | | | | | | | | | |
| Coating | | Flame Retardant Polyester tape wrap (UL510)with epoxy end fill(UL94V0) | | | | | | | | | |
| Lead terminations | | Lead free tinned copper leads | | | | | | | | | |



| WVDC | 370 | | | 500 | | | 600 | | | 700 | | | 800 | | |
|------|-----|--------|------|-------|-----------|-------|-------|---------|-----|-------|---------|-----|-------|---------|-----|
| uF | C≤5 | 5<C<10 | C>10 | C≤3.3 | 3.3<C<6.8 | C>6.8 | C<2.5 | 2.5<C<5 | C>4 | C≤1.5 | 1.5.C<4 | C>4 | C<1.2 | 1.2<C<4 | C>4 |
| d | .8 | 1.0 | 1.2 | .8 | 1.0 | 1.2 | .8 | 1.0 | 1.2 | .8 | 1.0 | 1.2 | .8 | 1.0 | 1.2 |

MAR

Axial Lead

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxDL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|----------------|
| 370 | 1 | 105MARA04KG | 50 | 2.5 | 23 | 11x29 |
| 370 | 1.5 | 155MARA04KG | 50 | 3 | 18.5 | 13x29 |
| 370 | 2 | 205MARA04KG | 50 | 4 | 15.5 | 15x29 |
| 370 | 2 | 205MARA04KJ | 40 | 3.5 | 17.5 | 12.5x34 |
| 370 | 2.2 | 225MARA04KG | 50 | 4 | 14.5 | 15x29 |
| 370 | 2.2 | 225MARA04KJ | 40 | 3.5 | 16.5 | 13x34 |
| 370 | 2.5 | 255MARA04KG | 50 | 4.5 | 13.4 | 16x29 |
| 370 | 2.5 | 255MARA04KJ | 40 | 4 | 15.2 | 14x34 |
| 370 | 3 | 305MARA04KG | 50 | 5 | 12.2 | 17x29 |
| 370 | 3 | 305MARA04KJ | 40 | 4.5 | 13.7 | 15x34 |
| 370 | 3.3 | 335MARA04KJ | 40 | 4.5 | 13 | 15.5x34 |
| 370 | 4 | 405MARA04KJ | 40 | 5.5 | 11.7 | 17x34 |
| 370 | 4.7 | 475MARA04KJ | 40 | 6 | 10.7 | 18x34 |
| 370 | 5 | 505MARA04KJ | 40 | 6 | 10.2 | 18.5x34 |
| 370 | 6.8 | 685MARA04KJ | 40 | 7.5 | 8.5 | 21x34 |
| 370 | 10 | 106MARA04KJ | 40 | 10 | 6 | 24x32 |
| 370 | 10 | 106MARA04KN | 25 | 9.5 | 7 | 21.5x46 |
| 370 | 15 | 156MARA04KN | 25 | 10.5 | 5.7 | 25.5x46 |
| 370 | 20 | 206MARA04KN | 25 | 13.5 | 5 | 29x46 |
| 370 | 22 | 226MARA04KN | 25 | 14 | 4.7 | 30.5x46 |
| 370 | 25 | 256MARA04KN | 25 | 14 | 4.4 | 32x46 |
| 370 | 30 | 306MARA04KR | 20 | 14 | 4.5 | 31x55 |
| 370 | 30 | 306MARA04KS | 15 | 14 | 5.3 | 29.5x59 |
| 370 | 33 | 336MARA04KR | 20 | 14 | 4.3 | 32.5x55 |
| 370 | 33 | 336MARA04KS | 15 | 14 | 5 | 31x59 |
| 370 | 40 | 406MARA04KR | 20 | 14 | 3.9 | 36x55 |
| 370 | 40 | 406MARA04KS | 15 | 14 | 4.5 | 33.5x59 |
| 370 | 50 | 506MARA04KR | 20 | 14 | 3.5 | 40x55 |
| 370 | 50 | 506MARA04KS | 15 | 14 | 3.9 | 37x59 |
| 370 | 60 | 606MARA04KS | 15 | 14 | 3.5 | 40x59 |
| 500 | 0.68 | 684MARA03KG | 60 | 2.5 | 25 | 11x29 |
| 500 | 1 | 105MARA03KG | 60 | 3 | 20 | 12.5x29 |
| 500 | 1 | 105MARA03KJ | 45 | 2.5 | 22.5 | 11.5x34 |
| 500 | 1.5 | 155MARA03KG | 60 | 4 | 16 | 15x29 |
| 500 | 1.5 | 155MARA03KJ | 50 | 3.5 | 18.2 | 13.5x34 |
| 500 | 2 | 205MARA03KG | 60 | 4.5 | 13.7 | 16.5x29 |
| 500 | 2 | 205MARA03KJ | 50 | 4 | 15.1 | 15x34 |
| 500 | 2.2 | 225MARA03KG | 60 | 5 | 13 | 17.5x29 |
| 500 | 2.2 | 225MARA03KJ | 50 | 4.5 | 14.2 | 15.5x34 |
| 500 | 2.5 | 255MARA03KJ | 50 | 5 | 13.2 | 17x34 |
| 500 | 3 | 305MARA03KJ | 50 | 5.5 | 11.9 | 18.5x34 |
| 500 | 3.3 | 335MARA03KJ | 50 | 6 | 11.3 | 19x34 |
| 500 | 4 | 405MARA03KJ | 50 | 7 | 10.2 | 21x34 |
| 500 | 4 | 405MARA03KN | 35 | 6 | 12.3 | 17.5x46 |
| 500 | 4.7 | 475MARA03KJ | 50 | 7.5 | 9.4 | 22.5x34 |
| 500 | 4.7 | 475MARA03KN | 35 | 7 | 11.1 | 19x46 |
| 500 | 5 | 505MARA03KJ | 50 | 7.5 | 9.1 | 23x34 |
| 500 | 5 | 505MARA03KN | 35 | 7 | 10.5 | 19.5x46 |
| 500 | 6.8 | 685MARA03KN | 35 | 8.5 | 8.7 | 22x46 |
| 500 | 10 | 106MARA03KN | 35 | 11 | 6.7 | 26x46 |
| 500 | 10 | 106MARA03KR | 25 | 10.5 | 7.4 | 23.5x55 |
| 500 | 12 | 126MARA03KN | 35 | 12 | 6.1 | 28x46 |
| 500 | 12 | 126MARA03KR | 25 | 11.5 | 6.7 | 25x55 |
| 500 | 15 | 156MARA03KN | 35 | 13.5 | 5.4 | 31x46 |
| 500 | 15 | 156MARA03KR | 25 | 13 | 6 | 28x55 |
| 500 | 15 | 156MARA03KS | 20 | 12.5 | 6.8 | 26.5x59 |
| 500 | 20 | 206MARA03KR | 25 | 14 | 5.1 | 31.5x55 |
| 500 | 20 | 206MARA03KS | 20 | 14 | 5.8 | 30x59 |

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxDL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|----------------|
| 500 | 22 | 226MARA03KR | 25 | 14 | 4.8 | 33x55 |
| 500 | 22 | 226MARA03KS | 20 | 14 | 5.4 | 31x59 |
| 500 | 25 | 256MARA03KR | 25 | 14 | 4.5 | 25x55 |
| 500 | 25 | 256MARA03KS | 20 | 14 | 5 | 33x59 |
| 500 | 30 | 306MARA03KR | 25 | 14 | 4.1 | 38x55 |
| 500 | 30 | 306MARA03KS | 20 | 14 | 4.5 | 36x59 |
| 500 | 33 | 336MARA03KR | 25 | 14 | 3.9 | 39.5x55 |
| 500 | 33 | 336MARA03KS | 20 | 14 | 4.3 | 37.5x59 |
| 500 | 35 | 356MARA03KR | 25 | 14 | 3.8 | 41x55 |
| 500 | 35 | 356MARA03KS | 20 | 14 | 4.2 | 38.5x59 |
| 500 | 40 | 406MARA03KS | 20 | 14 | 3.9 | 41x59 |
| 600 | 0.47 | 474MARA02KG | 90 | 2.5 | 24 | 11x29 |
| 600 | 0.68 | 684MARA02KG | 90 | 3 | 19.5 | 13x29 |
| 600 | 0.68 | 684MARA02KJ | 70 | 3 | 21.5 | 12x34 |
| 600 | 1 | 105MARA02KG | 90 | 4 | 15.5 | 15x29 |
| 600 | 1 | 105MARA02KJ | 70 | 3.5 | 17.5 | 13x34 |
| 600 | 1.5 | 155MARA02KG | 90 | 5 | 12.3 | 17.5x29 |
| 600 | 1.5 | 155MARA02KJ | 70 | 4.5 | 14 | 15.5x34 |
| 600 | 2 | 205MARA02KJ | 70 | 5.5 | 11.9 | 17.5x34 |
| 600 | 2.2 | 225MARA02KJ | 70 | 6 | 11.3 | 18.5x34 |
| 600 | 2.5 | 255MARA02KJ | 70 | 6 | 10.5 | 19x34 |
| 600 | 3 | 305MARA02KJ | 70 | 7 | 9.4 | 21x34 |
| 600 | 3.3 | 335MARA02KJ | 70 | 7.5 | 8.9 | 22x34 |
| 600 | 3.3 | 335MARA02KN | 50 | 7 | 10.1 | 19x46 |
| 600 | 4 | 405MARA02KJ | 70 | 8.5 | 7.9 | 24x32 |
| 600 | 4 | 405MARA02KN | 50 | 8 | 9.1 | 20.5x46 |
| 600 | 4.7 | 475MARA02KN | 50 | 9 | 7.7 | 22x46 |
| 600 | 5 | 505MARA02KN | 50 | 9 | 7.5 | 22.5x46 |
| 600 | 6.8 | 685MARA02KN | 50 | 11 | 6.4 | 26x46 |
| 600 | 10 | 106MARA02KN | 50 | 13.5 | 5.4 | 31x46 |
| 600 | 10 | 106MARA02KR | 35 | 13.5 | 6.3 | 27x55 |
| 600 | 10 | 106MARA02KS | 25 | 11.5 | 7.1 | 26x59 |
| 600 | 12 | 126MARA02KR | 35 | 14 | 5.7 | 29.5x55 |
| 600 | 12 | 126MARA02KS | 25 | 13 | 6.5 | 29x59 |
| 600 | 15 | 156MARA02KR | 35 | 14 | 5 | 33x55 |
| 600 | 15 | 156MARA02KS | 25 | 14 | 5.6 | 31x59 |
| 600 | 20 | 206MARA02KR | 35 | 14 | 4.3 | 37x55 |
| 600 | 20 | 206MARA02KS | 25 | 14 | 4.7 | 35x59 |
| 600 | 22 | 226MARA02KR | 35 | 14 | 4.1 | 39x55 |
| 600 | 22 | 226MARA02KS | 25 | 14 | 4.5 | 37x59 |
| 600 | 25 | 256MARA02KR | 35 | 14 | 3.8 | 41.5x55 |
| 600 | 25 | 256MARA02KS | 25 | 14 | 4.2 | 39x59 |
| 700 | 0.33 | 334MARA06KG | 105 | 2.5 | 25 | 11.5x29 |
| 700 | 0.47 | 474MARA06KG | 105 | 3 | 20.5 | 13x29 |
| 700 | 0.68 | 684MARA06KG | 105 | 4 | 16.8 | 15x29 |
| 700 | 0.68 | 684MARA06KJ | 85 | 3.5 | 18.8 | 13.5x34 |
| 700 | 1 | 105MARA06KJ | 85 | 4.5 | 15.4 | 15.5x34 |
| 700 | 1.5 | 155MARA06KJ | 85 | 5.5 | 12.5 | 18.5x34 |
| 700 | 2 | 205MARA06KJ | 85 | 6.5 | 10.6 | 21x34 |
| 700 | 2 | 205MARA06KN | 60 | 6 | 12.5 | 18x46 |
| 700 | 2.2 | 225MARA06KJ | 85 | 7 | 10.1 | 22x34 |
| 700 | 2.2 | 225MARA06KN | 60 | 6.5 | 11.9 | 19x46 |
| 700 | 2.5 | 255MARA06KJ | 85 | 7.5 | 9.4 | 23x34 |
| 700 | 2.5 | 255MARA06KN | 60 | 7 | 11.1 | 20x46 |
| 700 | 3 | 305MARA06KN | 60 | 7.5 | 10.1 | 21.5x46 |
| 700 | 3.3 | 335MARA06KN | 60 | 8 | 9.6 | 22.5x46 |
| 700 | 4 | 405MARA06KN | 60 | 9 | 8.7 | 24.5x46 |
| 700 | 4.7 | 475MARA06KN | 60 | 10.5 | 7.8 | 26.5x46 |

MAR

Axial Lead

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 700 | 5 | 505MARA06KN | 60 | 10.5 | 7.3 | 27x46 |
| 700 | 5 | 505MARA06KR | 45 | 9.5 | 8.6 | 23.5x55 |
| 700 | 5 | 505MARA06KS | 35 | 9.5 | 9.5 | 22.5x59 |
| 700 | 6.8 | 685MARA06KN | 60 | 12.5 | 6.3 | 30.5x46 |
| 700 | 6.8 | 685MARA06KR | 45 | 11.5 | 7.4 | 27x55 |
| 700 | 6.8 | 685MARA06KS | 35 | 11 | 8.2 | 25.5x59 |
| 700 | 10 | 106MARA06KR | 45 | 14 | 6.1 | 32x55 |
| 700 | 10 | 106MARA06KS | 35 | 13.5 | 6.8 | 30x59 |
| 700 | 12 | 126MARA06KR | 45 | 14 | 5.5 | 35x55 |
| 700 | 12 | 126MARA06KS | 35 | 14 | 6.1 | 33x59 |
| 700 | 15 | 156MARA06KR | 45 | 14 | 4.9 | 36.5x55 |
| 700 | 15 | 156MARA06KS | 35 | 14 | 5.4 | 26.5x59 |
| 700 | 18 | 186MARA06KR | 45 | 14 | 4.5 | 41.5x55 |
| 700 | 18 | 186MARA06KS | 35 | 14 | 4.9 | 39.5x59 |
| 700 | 20 | 206MARA06KS | 35 | 14 | 4.7 | 41.5x59 |
| 800 | 0.22 | 224MARA01KG | 120 | 2 | 29 | 11x29 |
| 800 | 0.33 | 334MARA01KG | 120 | 2.5 | 23.5 | 11.5x29 |
| 800 | 0.47 | 474MARA01KG | 120 | 3.5 | 19 | 14.5x29 |
| 800 | 0.47 | 474MARA01KJ | 100 | 3 | 22.5 | 12.5x34 |
| 800 | 0.68 | 684MARA01KG | 120 | 4 | 15.8 | 16.5x29 |
| 800 | 0.68 | 684MARA01KJ | 100 | 4 | 18 | 14x34 |
| 800 | 1 | 105MARA01KJ | 100 | 5 | 14.8 | 17.5x34 |
| 800 | 1.2 | 125MARA01KJ | 100 | 5.5 | 13.4 | 19x34 |
| 800 | 1.5 | 155MARA01KJ | 100 | 6 | 11.5 | 20x34 |

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 800 | 2 | 205MARA01KJ | 100 | 7.5 | 9.8 | 23.5x34 |
| 800 | 2 | 205MARA01KN | 65 | 7 | 11.5 | 20x46 |
| 800 | 2.2 | 225MARA01KJ | 100 | 7.5 | 9.3 | 24.5x34 |
| 800 | 2.2 | 225MARA01KN | 65 | 7.5 | 10.7 | 21x46 |
| 800 | 2.5 | 255MARA01KN | 65 | 8 | 10 | 22x46 |
| 800 | 3 | 305MARA01KN | 65 | 9 | 9 | 24x46 |
| 800 | 3.3 | 335MARA01KN | 65 | 9.5 | 8.5 | 25x46 |
| 800 | 4 | 405MARA01KN | 65 | 10.5 | 7.5 | 27x46 |
| 800 | 4 | 405MARA01KR | 50 | 10 | 8.8 | 24x55 |
| 800 | 4 | 405MARA01KS | 40 | 9.5 | 9.7 | 22.5x59 |
| 800 | 4.7 | 475MARA01KN | 65 | 12 | 6.6 | 29x46 |
| 800 | 4.7 | 475MARA01KR | 50 | 11 | 7.7 | 26.5x55 |
| 800 | 4.7 | 475MARA01KS | 40 | 10.5 | 8.6 | 24.5x59 |
| 800 | 5 | 505MARA01KN | 65 | 12.5 | 6.3 | 29.5x46 |
| 800 | 5 | 505MARA01KR | 50 | 11.5 | 7.4 | 27x55 |
| 800 | 5 | 505MARA01KS | 40 | 11 | 8.3 | 25x59 |
| 800 | 6.8 | 685MARA01KR | 50 | 13 | 6.5 | 30x55 |
| 800 | 6.8 | 685MARA01KS | 40 | 12.5 | 7.3 | 28.5x59 |
| 800 | 10 | 106MARA01KR | 50 | 14 | 5.4 | 35x55 |
| 800 | 10 | 106MARA01KS | 40 | 14 | 6.1 | 33.5x59 |
| 800 | 12.5 | 126MARA01KR | 50 | 14 | 4.9 | 40.5x55 |
| 800 | 12.5 | 126MARA01KS | 40 | 14 | 5.5 | 37.5x59 |
| 800 | 15 | 156MARA01KS | 40 | 14 | 5.1 | 41x59 |