

Low Impedance/Low ESR Capacitors MCGLR Series

multicomp PRO



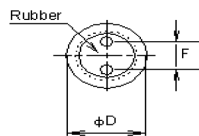
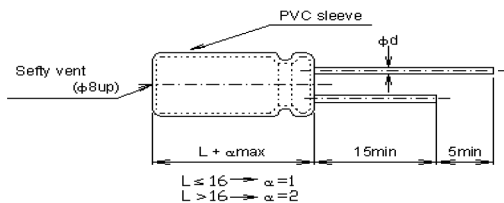
Features:

- Material : Aluminium.
- Low ESR.
- MCGLR series aluminium electrolytic capacitors are high reliable with low impedance, low ESR and guaranteed 2,000 hours at 105°C.
- Suitable for switching power and automobile industry.

Specifications:

| Item | Performance | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------------------|-------------------------------|--------------------|----------------------------------|---------------------------|-----------------------------------|------|-----|-----|-------------|------|------|-----|------|------|------|------|------|-------------|---|---|---|---|---|---|---|---|
| Operating Temperature Range | -55°C to +105°C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Working Voltage Range | 6.3V DC to 100V DC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal Capacitance Range | 0.47µF to 4,700µF | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at +20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $I \leq 0.01CV$ or $3(\mu A)$ after three minutes Application of rated working voltage at +20°C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tanδ) (120Hz +20°C) | <table border="1"> <tr> <td>Working Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>tanδ max.</td> <td>0.18</td> <td>0.12</td> <td>0.1</td> <td>0.08</td> <td>0.07</td> <td>0.06</td> <td>0.05</td> <td>0.05</td> </tr> </table> | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | tanδ max. | 0.18 | 0.12 | 0.1 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | | | | | | | | | |
| | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | | | | | | | | | | | | |
| tanδ max. | 0.18 | 0.12 | 0.1 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | | | | | | | | | | | | | | | | | | | | |
| Characteristics at Low Temperature (stability at 120Hz) | <table border="1"> <tr> <td>Working Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>-25°C/+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>-40°C/+20°C</td> <td>8</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> </tr> </table> | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | -25°C/+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | -40°C/+20°C | 8 | 4 | 3 | 3 | 3 | 3 | 4 | 4 |
| | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | | | | | | | | | | | | |
| | -25°C/+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | |
| -40°C/+20°C | 8 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | | | | | | | | | | | | | | | | | | | | |
| High Temperature Loading | After 5,000hrs. application of DC rated working voltage at +105°C, The capacitor shall meet the following limits: <table border="1"> <tr> <td>Leakage current</td> <td>≤ the Initial specified value</td> </tr> <tr> <td>Capacitance change</td> <td>≤ ±15% of initial measured value</td> </tr> <tr> <td>Dissipation Factor (tanδ)</td> <td>≤ 150% of initial specified value</td> </tr> </table> | Leakage current | ≤ the Initial specified value | Capacitance change | ≤ ±15% of initial measured value | Dissipation Factor (tanδ) | ≤ 150% of initial specified value | | | | | | | | | | | | | | | | | | | | | |
| Leakage current | ≤ the Initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance change | ≤ ±15% of initial measured value | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tanδ) | ≤ 150% of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life | After storage for 1000hrs. at +105°C with no voltage applied. Post test requirements at +20°C Same limits as high temperature loading. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solvent proof | This capacitor can withstand circuit-board cleaning within 5 min. dipped in Freon TE, TES, at 40°C (ultrasonic also permitted) or in the steam of these cleaners. | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Diagram of Dimensions



| | | | | | |
|---------------|-----|-----|-----|-----|-----|
| DØ (+0.5 Max) | 8 | 10 | 13 | 16 | 18 |
| F (±0.5) | 3.5 | 5 | 5 | 7.5 | 7.5 |
| dØ (±0.02) | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |

Dimensions : Millimetres

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Case Size Table

| | | ø D × L (mm) | | | | | | |
|-----------------|------------|--------------|------------|------------|------------|------------|------------|--------------|
| W.V. (SV) μF | 6.3 (8) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) |
| 1 | | | | | | 5 × 11 | | 5 × 11 |
| 2.2 | | | | | | 5 × 11 | | 5 × 11 |
| 3.3 | | | | | | 5 × 11 | | 5 × 11 |
| 4.7 | | | | | | 5 × 11 | | 5 × 11 |
| 10 | | | | | | 5 × 11 | | 6.3 × 11 |
| 22 | | | | | | 5 × 11 | | 8 × 12 |
| 33 | | | 5 × 11 | 6.3 × 11 | 6.3 × 11 | 6.3 × 11 | | 8 × 14 |
| 47 | | | 5 × 11 | 6.3 × 11 | 6.3 × 11 | 8 × 11 | | 10 × 17 |
| 68 | | | | | | | | |
| 100 | | 5 × 11 | 6.3 × 11 | 8 × 11 | 8 × 11 | 10 × 13 | | 10 × 20 |
| 220 | | 6.3 × 11 | 8 × 11 | 8 × 14 | 10 × 16 | 10 × 21 | | |
| 330 | | 8 × 11 | 8 × 14 | 10 × 16 | 10 × 21 | 13 × 21 | | |
| 470 | | 8 × 11 | 10 × 16 | 10 × 16 | 10 × 21 | 13 × 26 | | |
| 680 | | | | | | | | |
| 1,000 | | 10 × 16 | 10 × 16 | 13 × 21 | 16 × 26 | 16 × 32 | | |
| 2,200 | | 13 × 26 | 13 × 26 | | | | | |
| 3,300 | | 13 × 25 | 16 × 32 | | | | | |
| 4,700 | | 16 × 26 | 16 × 36 | | | | | |

Max. Ripple Current [mA]rms max.(100kHz, +105°C)

| W.V.(SV) μF | 6.3 (8) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) |
|----------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| 0.47 | | | | | | | | |
| 1.0 | | | | | | 45 | | 45 |
| 2.2 | | | | | | 45 | | 45 |
| 3.3 | | | | | | 50 | | 45 |
| 4.7 | | | | | | 55 | | 100 |
| 10 | | | | | | 68 | | 105 |
| 22 | | | | | | 70 | | 170 |
| 33 | | | 110 | 185 | 185 | 190 | | 210 |
| 47 | | | 108 | 185 | 185 | 320 | | 350 |
| 68 | | | | | | | | |
| 100 | | 102 | 180 | 330 | 350 | 360 | | 530 |
| 220 | | 180 | 330 | 360 | 450 | 460 | | |
| 330 | | 280 | 360 | 450 | 600 | 880 | | |
| 470 | | 300 | 450 | 520 | 600 | 1090 | | |
| 680 | | | | | | | | |
| 1,000 | | 690 | 775 | 950 | 1075 | 1600 | | |
| 2,200 | | 1200 | 1300 | | | | | |
| 3,300 | | 1200 | 1850 | | | | | |
| 4,700 | | 1600 | 2070 | | | | | |

Max. Impedance [Ω]max.(100kHz, +25°C)

| W.V.(SV) μF | 6.3 (8) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) |
|----------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| 0.47 | | | | | | | | |
| 1.0 | | | | | | 4 | | 4 |
| 2.2 | | | | | | 4 | | 4 |
| 3.3 | | | | | | 3.5 | | 3.5 |
| 4.7 | | | | | | 3 | | 3 |
| 10 | | | | | | 2.2 | | 2.2 |
| 22 | | | | | | 2.2 | | 2.2 |
| 33 | | | 1.4 | 0.7 | 0.6 | 0.6 | | 0.6 |
| 47 | | | 1.4 | 0.6 | 0.6 | 0.35 | | 0.35 |
| 68 | | | | | | | | |
| 100 | | 1.4 | 0.7 | 0.4 | 0.4 | 0.3 | | 0.32 |
| 220 | | 1.4 | 0.4 | 0.3 | 0.2 | 0.19 | | |
| 330 | | 1.2 | 0.3 | 0.2 | 0.14 | 0.13 | | |
| 470 | | 0.4 | 0.2 | 0.19 | 0.15 | 0.075 | | |
| 680 | | | | | | | | |
| 1,000 | | 0.2 | 0.18 | 0.085 | 0.08 | 0.07 | | |
| 2,200 | | 0.07 | 0.07 | | | | | |
| 3,300 | | 0.075 | 0.05 | | | | | |
| 4,700 | | 0.06 | 0.045 | | | | | |

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Part Number Table

| Description | Part Number | Description | Part Number |
|--|--------------------|--|---------------------|
| Electrolytic Capacitor, 100µF, 10V, RAD | MCGLR10V107M5X11 | Electrolytic Capacitor, 100µF, 35V, RAD | MCGLR35V107M8X11 |
| Electrolytic Capacitor, 220µF, 10V, RAD | MCGLR10V227M6.3X11 | Electrolytic Capacitor, 220µF, 35V, RAD | MCGLR35V227M10X16 |
| Electrolytic Capacitor, 330µF, 10V, RAD | MCGLR10V337M8X11 | Electrolytic Capacitor, 330µF, 35V, RAD | MCGLR35V337M10X21 |
| Electrolytic Capacitor, 470µF, 10V, RAD | MCGLR10V477M8X11 | Electrolytic Capacitor, 470µF, 35V, RAD | MCGLR35V477M10X21 |
| Electrolytic Capacitor, 1000µF, 10V, RAD | MCGLR10V108M10X16 | Electrolytic Capacitor, 1000µF, 35V, RAD | MCGLR35V108M16X26 |
| Electrolytic Capacitor, 2200µF, 10V, RAD | MCGLR10V228M13X26 | Electrolytic Capacitor, 1µF, 50V, RAD | MCGLR50V105M5X11 |
| Electrolytic Capacitor, 3300µF, 10V, RAD | MCGLR10V338M13X25 | Electrolytic Capacitor, 2.2µF, 50V, RAD | MCGLR50V225M5X11 |
| Electrolytic Capacitor, 4700µF, 10V, RAD | MCGLR10V478M16X26 | Electrolytic Capacitor, 3.3µF, 50V, RAD | MCGLR50V335M5X11 |
| Electrolytic Capacitor, 33µF, 16V, RAD | MCGLR16V336M5X11 | Electrolytic Capacitor, 4.7µF, 50V, RAD | MCGLR50V475M5X11 |
| Electrolytic Capacitor, 47µF, 16V, RAD | MCGLR16V476M5X11 | Electrolytic Capacitor, 10µF, 50V, RAD | MCGLR50V106M5X11 |
| Electrolytic Capacitor, 100µF, 16V, RAD | MCGLR16V107M6.3X11 | Electrolytic Capacitor, 22µF, 50V, RAD | MCGLR50V226M5X11 |
| Electrolytic Capacitor, 220µF, 16V, RAD | MCGLR16V227M8X11 | Electrolytic Capacitor, 33µF, 50V, RAD | MCGLR50V336M6.3X11 |
| Electrolytic Capacitor, 330µF, 16V, RAD | MCGLR16V337M8X14 | Electrolytic Capacitor, 47µF, 50V, RAD | MCGLR50V476M8X11 |
| Electrolytic Capacitor, 470µF, 16V, RAD | MCGLR16V477M10X16 | Electrolytic Capacitor, 100µF, 50V, RAD | MCGLR50V107M10X13 |
| Electrolytic Capacitor, 1000µF, 16V, RAD | MCGLR16V108M10X16 | Electrolytic Capacitor, 220µF, 50V, RAD | MCGLR50V227M10X21 |
| Electrolytic Capacitor, 2200µF, 16V, RAD | MCGLR16V228M13X26 | Electrolytic Capacitor, 330µF, 50V, RAD | MCGLR50V337M13X21 |
| Electrolytic Capacitor, 3300µF, 16V, RAD | MCGLR16V338M16X32 | Electrolytic Capacitor, 470µF, 50V, RAD | MCGLR50V477M13X26 |
| Electrolytic Capacitor, 4700µF, 16V, RAD | MCGLR16V478M16X36 | Electrolytic Capacitor, 1000µF, 50V, RAD | MCGLR50V108M16X32 |
| Electrolytic Capacitor, 33µF, 25V, RAD | MCGLR25V336M6.3X11 | Electrolytic Capacitor, 1µF, 100V, RAD | MCGLR100V105M5X11 |
| Electrolytic Capacitor, 47µF, 25V, RAD | MCGLR25V476M6.3X11 | Electrolytic Capacitor, 2.2µF, 100V, RAD | MCGLR100V225M5X11 |
| Electrolytic Capacitor, 100µF, 25V, RAD | MCGLR25V107M8X11 | Electrolytic Capacitor, 3.3µF, 100V, RAD | MCGLR100V335M5X11 |
| Electrolytic Capacitor, 220µF, 25V, RAD | MCGLR25V227M8X14 | Electrolytic Capacitor, 4.7µF, 100V, RAD | MCGLR100V475M5X11 |
| Electrolytic Capacitor, 330µF, 25V, RAD | MCGLR25V337M10X16 | Electrolytic Capacitor, 10µF, 100V, RAD | MCGLR100V106M6.3X11 |
| Electrolytic Capacitor, 470µF, 25V, RAD | MCGLR25V477M10X16 | Electrolytic Capacitor, 22µF, 100V, RAD | MCGLR100V226M8X12 |
| Electrolytic Capacitor, 1000µF, 25V, RAD | MCGLR25V108M13X21 | Electrolytic Capacitor, 33µF, 100V, RAD | MCGLR100V336M8X14 |
| Electrolytic Capacitor, 33µF, 35V, RAD | MCGLR35V336M6.3X11 | Electrolytic Capacitor, 47µF, 100V, RAD | MCGLR100V476M10X17 |
| Electrolytic Capacitor, 47µF, 35V, RAD | MCGLR35V476M6.3X11 | Electrolytic Capacitor, 100µF, 100V, RAD | MCGLR100V107M10X20 |

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