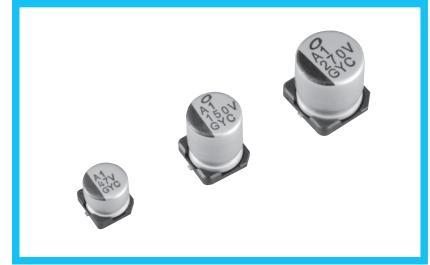
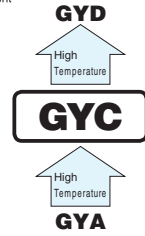


CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS nichicon

GYC Chip Type, 135°C High Reliability



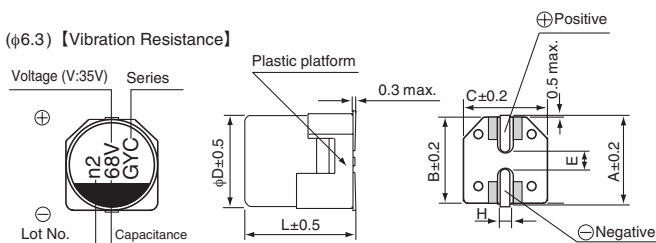
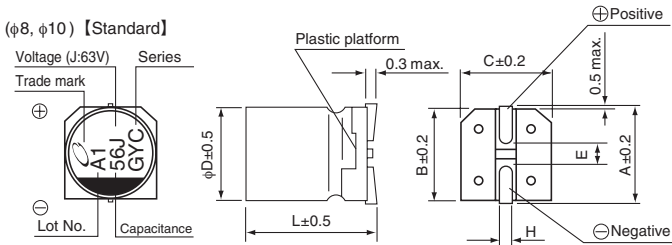
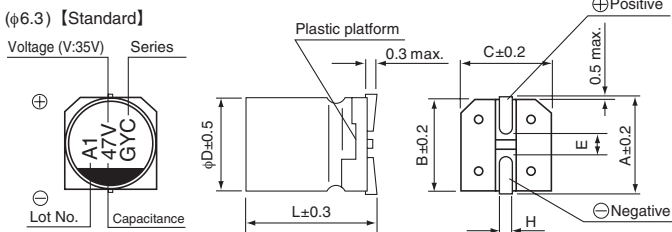
- High Reliability, Low ESR, High ripple current.
- Long life of 2000 to 4000 hours at 135°C.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.



Specifications

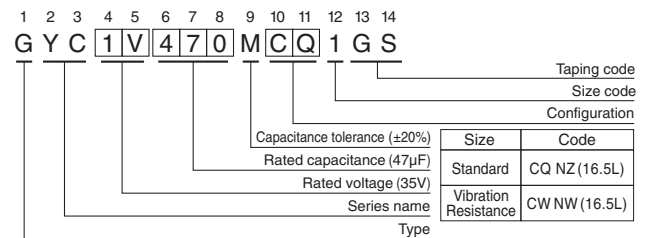
| Item | Performance Characteristics | | | | | | | | | | | | | | | |
|--|--|--------------------|---|-------|---|-----------------|---|-----------------|---|--------------|------|------|------|------|------|------|
| Category Temperature Range | -55 to +135°C | | | | | | | | | | | | | | | |
| Rated Voltage Range | 16 to 80V | | | | | | | | | | | | | | | |
| Rated Capacitance Range | 10 to 560μF | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td rowspan="2">120Hz 20°C</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table> | Rated voltage (V) | 16 | 25 | 35 | 50 | 63 | 80 | 120Hz 20°C | tan δ (max.) | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.08 |
| Rated voltage (V) | 16 | 25 | 35 | 50 | 63 | 80 | 120Hz 20°C | | | | | | | | | |
| tan δ (max.) | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.08 | | | | | | | | | | |
| ESR | Less than or equal to the specified value at 100kHz, 20°C | | | | | | | | | | | | | | | |
| Leakage Current ※ | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(μA). 80V: After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.05CV(μA). | | | | | | | | | | | | | | | |
| Temperature Characteristics (Max. Impedance Ratio) | Z(-25°C) / Z(+20°C) ≤ 2 Z(-55°C) / Z(+20°C) ≤ 2.5 (100kHz) | | | | | | | | | | | | | | | |
| Endurance | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 4000 hours (2000 hours for φD=6.3) at 125°C or 135°C, the peak voltage shall not exceed the rated voltage. <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>ESR</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within ±30% of initial capacitance value | tan δ | 200% or less of the initial specified value | ESR | 200% or less of the initial specified value | Leakage current | Less than or equal to the initial specified value | | | | | | | |
| Capacitance change | Within ±30% of initial capacitance value | | | | | | | | | | | | | | | |
| tan δ | 200% or less of the initial specified value | | | | | | | | | | | | | | | |
| ESR | 200% or less of the initial specified value | | | | | | | | | | | | | | | |
| Leakage current | Less than or equal to the initial specified value | | | | | | | | | | | | | | | |
| Shelf Life | After storing the capacitors under no load at 135°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. | | | | | | | | | | | | | | | |
| Damp Heat (Steady State) | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C, 85% RH. <table border="1"> <tr> <td>Capacitance change</td> <td>Within±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within±30% of the initial capacitance value | tan δ | 200% or less of the initial specified value | Leakage current | Less than or equal to the initial specified value | | | | | | | | | |
| Capacitance change | Within±30% of the initial capacitance value | | | | | | | | | | | | | | | |
| tan δ | 200% or less of the initial specified value | | | | | | | | | | | | | | | |
| Leakage current | Less than or equal to the initial specified value | | | | | | | | | | | | | | | |
| Resistance to Soldering Heat | The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C. <table border="1"> <tr> <td>Capacitance change</td> <td>Within±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within±10% of the initial capacitance value | tan δ | Less than or equal to the initial specified value | Leakage current | Less than or equal to the initial specified value | | | | | | | | | |
| Capacitance change | Within±10% of the initial capacitance value | | | | | | | | | | | | | | | |
| tan δ | Less than or equal to the initial specified value | | | | | | | | | | | | | | | |
| Leakage current | Less than or equal to the initial specified value | | | | | | | | | | | | | | | |
| Marking | Black print on the case top. | | | | | | | | | | | | | | | |

Dimensions



※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

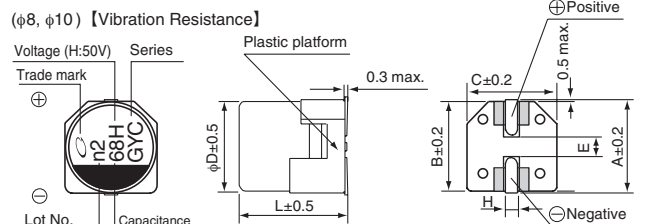
Type numbering system (Example : 35V 47μF)



| Standard (mm) | | | | | | Vibration Resistance (mm) | | | | | | |
|---------------|------------|------------|------------|------------|------------|---------------------------|----|------------|------------|------------|------------|------------|
| φD | 6.3x5.8 | 6.3x7.7 | 8x10 | 10x10 | 10x12.5 | 10x16.5 | φD | 6.3x7.7 | 8x10 | 10x10 | 10x12.5 | 10x16.5 |
| A | 7.3 | 7.3 | 9.0 | 11.0 | 11.0 | 11.0 | A | 7.3 | 9.0 | 11.0 | 11.0 | 11.0 |
| B | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 10.3 | B | 6.6 | 8.3 | 10.3 | 10.3 | 10.3 |
| C | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 10.3 | C | 6.6 | 8.3 | 10.3 | 10.3 | 10.3 |
| E | 2.2 | 2.2 | 3.1 | 4.5 | 4.5 | 4.5 | E | 2.2 | 3.1 | 4.5 | 4.5 | 4.5 |
| L | 5.8 | 7.7 | 10.3 | 10.3 | 12.5 | 16.5 | L | 7.7 | 10.5 | 10.5 | 12.8 | 16.8 |
| H | 0.5 to 0.8 | 0.5 to 0.8 | 0.8 to 1.1 | 0.8 to 1.1 | 0.8 to 1.1 | 1.1 to 1.5 | H | 0.5 to 0.8 | 1.1 to 1.5 | 1.1 to 1.5 | 1.1 to 1.5 | 1.1 to 1.5 |

● Frequency coefficient of rated ripple current

| Voltage | Frequency | 120Hz | 1kHz | 10kHz | 100kHz or more | |
|-------------|-----------|-------|------|-------|----------------|---|
| Code | C | E | V | H | J | K |
| Coefficient | | 0.15 | 0.40 | 0.75 | 1.00 | |



● Dimension table in next page.



■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | ESR (mΩ) max. (20°C/100kHz) | Rated Ripple (mArms) | | Part Number |
|--------------------------|------------------------|---------------------|-------------|--|-----------------------------|----------------------|--------------|-----------------------|
| | | | | | | 125°C/100kHz | 135°C/100kHz | |
| 16 (1C) | 82 | 6.3×5.8 | 0.16 | 13.12 | 50 | 1500 | 950 | GYC1C820MC□1GS |
| | 150 | 6.3×7.7 | 0.16 | 24.0 | 30 | 2000 | 1500 | GYC1C151MC□1GS |
| | 270 | 8×10 | 0.16 | 43.2 | 25 | 3100 | 1700 | GYC1C271MC□1GS |
| | 470 | 10×10 | 0.16 | 75.2 | 20 | 3400 | 2100 | GYC1C471MC□1GS |
| | 560 | 10×12.5 | 0.16 | 89.6 | 16 | 3600 | 2400 | GYC1C561MC□1GS |
| 25 (1E) | 47 | 6.3×5.8 | 0.14 | 11.75 | 50 | 1400 | 900 | GYC1E470MC□1GS |
| | 56 | 6.3×5.8 | 0.14 | 14.00 | 50 | 1400 | 900 | GYC1E560MC□1GS |
| | 68 | 6.3×7.7 | 0.14 | 17.00 | 30 | 1900 | 1400 | GYC1E680MC□1GS |
| | 100 | 6.3×7.7 | 0.14 | 25.00 | 30 | 1900 | 1400 | GYC1E101MC□1GS |
| | 150 | 8×10 | 0.14 | 37.50 | 27 | 2900 | 1600 | GYC1E151MC□1GS |
| | 220 | 8×10 | 0.14 | 55.00 | 27 | 2900 | 1600 | GYC1E221MC□1GS |
| | 270 | 10×10 | 0.14 | 67.50 | 20 | 3300 | 2000 | GYC1E271MC□1GS |
| | 330 | 10×10 | 0.14 | 82.50 | 20 | 3300 | 2000 | GYC1E331MC□1GS |
| | 470 | 10×12.5 | 0.14 | 117.50 | 16 | 3500 | 2300 | GYC1E471MC□1GS |
| | 560 | 10×16.5 | 0.14 | 140.0 | 12 | 4800 | 2900 | GYC1E561MN□1GS |
| 35 (1V) | 33 | 6.3×5.8 | 0.12 | 11.55 | 60 | 1400 | 900 | GYC1V330MC□1GS |
| | 47 | 6.3×5.8 | 0.12 | 16.45 | 60 | 1400 | 900 | GYC1V470MC□1GS |
| | 68 | 6.3×7.7 | 0.12 | 23.80 | 35 | 1900 | 1400 | GYC1V680MC□1GS |
| | 100 | 8×10 | 0.12 | 35.00 | 27 | 2900 | 1600 | GYC1V101MC□1GS |
| | 150 | 8×10 | 0.12 | 52.50 | 27 | 2900 | 1600 | GYC1V151MC□1GS |
| | 220 | 10×10 | 0.12 | 77.00 | 20 | 3300 | 2000 | GYC1V221MC□1GS |
| | 270 | 10×10 | 0.12 | 94.50 | 20 | 3300 | 2000 | GYC1V271MC□1GS |
| | 330 | 10×12.5 | 0.12 | 115.50 | 16 | 3500 | 2300 | GYC1V331MC□1GS |
| | 470 | 10×16.5 | 0.12 | 164.5 | 12 | 4800 | 2900 | GYC1V471MN□1GS |
| 50 (1H) | 22 | 6.3×5.8 | 0.10 | 11.00 | 80 | 1100 | 750 | GYC1H220MC□1GS |
| | 33 | 6.3×7.7 | 0.10 | 16.50 | 40 | 1600 | 1100 | GYC1H330MC□1GS |
| | 47 | 8×10 | 0.10 | 23.50 | 30 | 2200 | 1250 | GYC1H470MC□1GS |
| | 68 | 8×10 | 0.10 | 34.00 | 30 | 2200 | 1250 | GYC1H680MC□1GS |
| | 100 | 10×10 | 0.10 | 50.00 | 28 | 2600 | 1600 | GYC1H101MC□1GS |
| | 120 | 10×10 | 0.10 | 60.00 | 28 | 2600 | 1600 | GYC1H121MC□1GS |
| | 150 | 10×12.5 | 0.10 | 75.00 | 18 | 3200 | 2000 | GYC1H151MC□1GS |
| | 220 | 10×16.5 | 0.10 | 110.0 | 14 | 4300 | 2600 | GYC1H221MN□1GS |
| 63 (1J) | 10 | 6.3×5.8 | 0.08 | 6.30 | 120 | 1000 | 700 | GYC1J100MC□1GS |
| | 22 | 6.3×7.7 | 0.08 | 13.86 | 80 | 1300 | 900 | GYC1J220MC□1GS |
| | 33 | 8×10 | 0.08 | 20.79 | 40 | 1900 | 1100 | GYC1J330MC□1GS |
| | 47 | 8×10 | 0.08 | 29.61 | 40 | 1900 | 1100 | GYC1J470MC□1GS |
| | 56 | 10×10 | 0.08 | 35.28 | 30 | 2300 | 1400 | GYC1J560MC□1GS |
| | 68 | 10×10 | 0.08 | 42.84 | 30 | 2300 | 1400 | GYC1J680MC□1GS |
| | 82 | 10×10 | 0.08 | 51.66 | 30 | 2300 | 1400 | GYC1J820MC□1GS |
| | 100 | 10×12.5 | 0.08 | 63.00 | 20 | 3000 | 1900 | GYC1J101MC□1GS |
| | 150 | 10×16.5 | 0.08 | 94.5 | 15 | 4200 | 2500 | GYC1J151MN□1GS |
| 80 (1K) | 22 | 8×10 | 0.08 | 88.0 | 45 | 1600 | 1100 | GYC1K220MC□1GS |
| | 33 | 10×10 | 0.08 | 132.0 | 36 | 1900 | 1300 | GYC1K330MC□1GS |
| | 47 | 10×10 | 0.08 | 188.0 | 36 | 1900 | 1300 | GYC1K470MC□1GS |
| | 56 | 10×12.5 | 0.08 | 224.0 | 24 | 2800 | 1800 | GYC1K560MC□1GS |

□ : Enter the appropriate configuration code.

Blue : New product (as of October 2024)

• For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

Looking for pricing, stock, or lifecycle information?

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- ⊖ [Nichicon Information](#)

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