

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS nichicon

GYB

Chip Type, 105°C High Reliability



Expanded

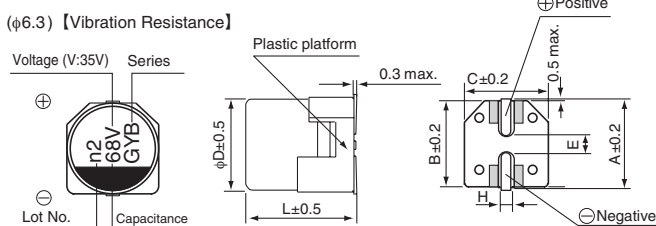
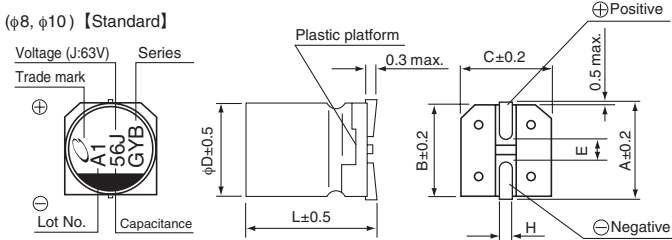
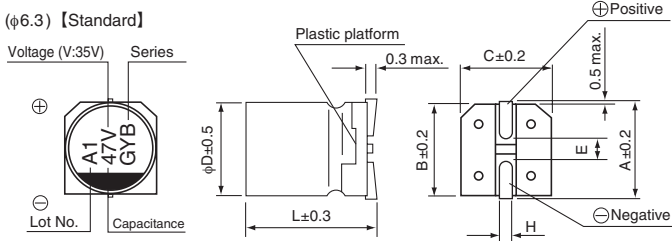
- High Reliability, Low ESR, High ripple current.
- Long life of 10000 hours at 105°C.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.



Specifications

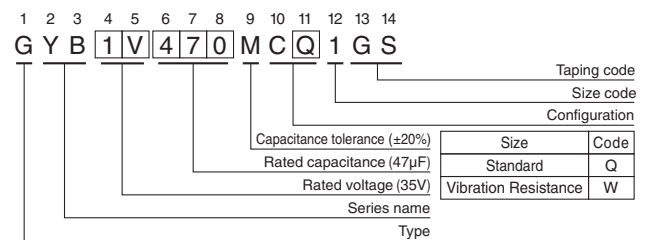
| Item | Performance Characteristics | |
|--|---|---|
| Category Temperature Range | -55 to +105°C | |
| Rated Voltage Range | 16 to 63V | |
| Rated Capacitance Range | 10 to 470μF | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 16 25 35 50 63 |
| | tan δ (max.) | 0.16 0.14 0.12 0.10 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). | |
| 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 10000 hours at 105°C, the peak voltage shall not exceed the rated voltage. | |
| | 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 105°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. | |
| | Capacitance change | Within ±30% of the initial capacitance 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. | |
| | Capacitance change | Within ±10% of the initial capacitance 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)

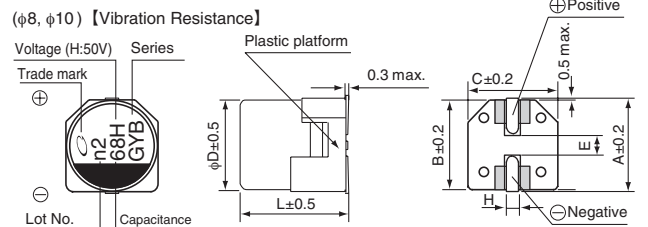
Type numbering system (Example : 35V 47μF)



| | Standard (mm) | | | | | Vibration Resistance (mm) | | | | |
|---|---------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|--|
| | 6.3×5.8 | 6.3×7.7 | 8×10 | 10×10 | 10×12.5 | 6.3×7.7 | 8×10 | 10×10 | 10×12.5 | |
| A | 7.3 | 7.3 | 9.0 | 11.0 | 11.0 | 7.3 | 9.0 | 11.0 | 11.0 | |
| B | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 6.6 | 8.3 | 10.3 | 10.3 | |
| C | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 6.6 | 8.3 | 10.3 | 10.3 | |
| E | 2.2 | 2.2 | 3.1 | 4.5 | 4.5 | 2.2 | 3.1 | 4.5 | 4.5 | |
| L | 5.8 | 7.7 | 10.3 | 10.3 | 12.5 | 7.7 | 10.5 | 10.5 | 12.8 | |
| 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 | 0.5 to 0.8 | 1.1 to 1.5 | 1.1 to 1.5 | 1.1 to 1.5 | |

Frequency coefficient of rated ripple current

| Voltage | Frequency | Coefficient | | | |
|---------|----------------|-------------|------|-------|----------------|
| | | 120Hz | 1kHz | 10kHz | 100kHz or more |
| V | 16 25 35 50 63 | 0.15 | 0.40 | 0.75 | 1.00 |
| Code | C E V H J | | | | |



● 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 (mA _{rms}) (105°C/100kHz) | Part Number |
|--------------------------|------------------------|---------------------|-------|--|-----------------------------|--|----------------|
| 16 (1C) | 82 | 6.3×5.8 | 0.16 | 13.12 | 50 | 1400 | GYB1C820MC□1GS |
| | 150 | 6.3×7.7 | 0.16 | 24.0 | 30 | 2100 | GYB1C151MC□1GS |
| | 270 | 8×10 | 0.16 | 43.2 | 25 | 2400 | GYB1C271MC□1GS |
| | 470 | 10×10 | 0.16 | 75.2 | 20 | 2600 | GYB1C471MC□1GS |
| 25 (1E) | 47 | 6.3×5.8 | 0.14 | 11.75 | 50 | 1300 | GYB1E470MC□1GS |
| | 56 | 6.3×5.8 | 0.14 | 14.00 | 50 | 1300 | GYB1E560MC□1GS |
| | 68 | 6.3×7.7 | 0.14 | 17.00 | 30 | 2000 | GYB1E680MC□1GS |
| | 100 | 6.3×7.7 | 0.14 | 25.00 | 30 | 2000 | GYB1E101MC□1GS |
| | 150 | 8×10 | 0.14 | 37.50 | 27 | 2300 | GYB1E151MC□1GS |
| | 220 | 8×10 | 0.14 | 55.00 | 27 | 2300 | GYB1E221MC□1GS |
| | 270 | 10×10 | 0.14 | 67.50 | 20 | 2500 | GYB1E271MC□1GS |
| | 330 | 10×10 | 0.14 | 82.50 | 20 | 2500 | GYB1E331MC□1GS |
| 35 (1V) | 33 | 6.3×5.8 | 0.12 | 11.55 | 60 | 1300 | GYB1V330MC□1GS |
| | 47 | 6.3×5.8 | 0.12 | 16.45 | 60 | 1300 | GYB1V470MC□1GS |
| | 68 | 6.3×7.7 | 0.12 | 23.80 | 35 | 2000 | GYB1V680MC□1GS |
| | 100 | 8×10 | 0.12 | 35.00 | 27 | 2300 | GYB1V101MC□1GS |
| | 150 | 8×10 | 0.12 | 52.50 | 27 | 2300 | GYB1V151MC□1GS |
| | 220 | 10×10 | 0.12 | 77.00 | 20 | 2500 | GYB1V221MC□1GS |
| | 270 | 10×10 | 0.12 | 94.50 | 20 | 2500 | GYB1V271MC□1GS |
| | 330 | 10×12.5 | 0.12 | 115.50 | 16 | 3500 | GYB1V331MC□1GS |
| 50 (1H) | 22 | 6.3×5.8 | 0.10 | 11.00 | 80 | 1100 | GYB1H220MC□1GS |
| | 33 | 6.3×7.7 | 0.10 | 16.50 | 40 | 1600 | GYB1H330MC□1GS |
| | 47 | 8×10 | 0.10 | 23.50 | 30 | 1800 | GYB1H470MC□1GS |
| | 68 | 8×10 | 0.10 | 34.00 | 30 | 1800 | GYB1H680MC□1GS |
| | 100 | 10×10 | 0.10 | 50.00 | 28 | 2000 | GYB1H101MC□1GS |
| | 120 | 10×10 | 0.10 | 60.00 | 28 | 2000 | GYB1H121MC□1GS |
| | 150 | 10×12.5 | 0.10 | 75.00 | 18 | 3200 | GYB1H151MC□1GS |
| 63 (1J) | 10 | 6.3×5.8 | 0.08 | 6.30 | 120 | 1000 | GYB1J100MC□1GS |
| | 22 | 6.3×7.7 | 0.08 | 13.86 | 80 | 1500 | GYB1J220MC□1GS |
| | 33 | 8×10 | 0.08 | 20.79 | 40 | 1600 | GYB1J330MC□1GS |
| | 47 | 8×10 | 0.08 | 29.61 | 40 | 1600 | GYB1J470MC□1GS |
| | 56 | 10×10 | 0.08 | 35.28 | 30 | 1800 | GYB1J560MC□1GS |
| | 68 | 10×10 | 0.08 | 42.84 | 30 | 1800 | GYB1J680MC□1GS |
| | 82 | 10×10 | 0.08 | 51.66 | 30 | 1800 | GYB1J820MC□1GS |
| | 100 | 10×12.5 | 0.08 | 63.00 | 20 | 3000 | GYB1J101MC□1GS |

□ : Enter the appropriate configuration code.

Blue : New product (as of October 2022)

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