**UPGRADE!**

# HCGW2 Series

**Useful of 4,000 hours at 85°C**

Miniaturization


- Conform RoHS

## Features

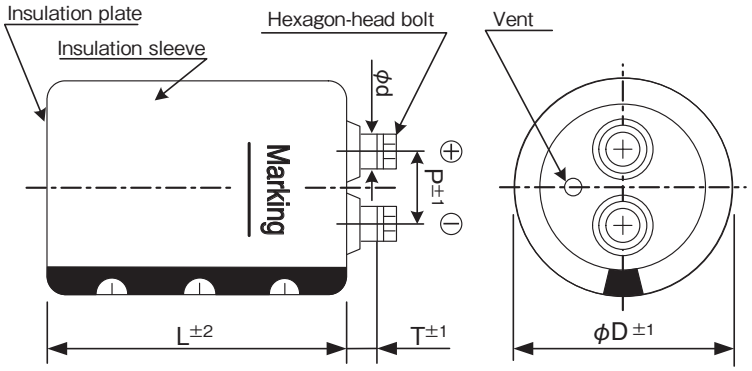
- Capacitance is increased by around 20%, of conventional HCGWA series through development of etched foil technology.
- The correspondence size has been expanded to φ90×268L.

HCGWA P.70 → Small-size HCGW2

## Product Specifications

| Items | Specifications |
|---|---|
| Temperature range | −10℃ ～ +85℃ |
| Rated voltage | 400 ～ 500V.DC |
| Capacitance tolerance | ±20% (20℃, 120Hz) |
| Leakage current | 0.01CV (μA) or 7mA, whichever is smaller or less (20℃, after 5 minutes)<br>[C = nominal capacitance (μF), V = rated voltage (V)] |
| Dissipation factor | Less than the value specified in the standard products table. (20℃, 120Hz) |
| Permissible ripple current | As specified in the standard products table. (85℃, 120Hz) |
| Endurance | After the rated voltage with specified ripple current is applied at 85℃ for 2,000 hours :<br>Capacitance change : Within ±15% of the initial value measured<br>Dissipation factor : 175% or less than the initial value specified<br>Leakage current : Less than or equal to the initial value specified |
| Shelf life | The following specification shall be meet when the capacitor are restored to 20℃ after storage of 500 hours at 85℃ with no voltage applied. Before the measurement, the capacitor shall be preconditioned by applying the voltage treatment according to Item 4.1 of JIS C 5101-4.<br>Capacitance change : Within ±15% of the initial value measured<br>Dissipation factor : 175% or less than the initial value specified<br>Leakage current : Less than or equal to the initial value specified |
| Others | JIS C 5101-4 |

## Dimensions




(unit : mm)

| φD | P | T | φd | Hexagon-head bolt | Cap material |
|---|---|---|---|---|---|
| 77 | 31.5 | 9.0 | 12.0 | M6×12 | Phenol resin |
| 90 | 31.5 | 8.0 | 12.0 | M6×12 | Phenol resin |

## Ripple current correction coefficient

| Temperature (℃) | 40 | 60 | 70 | 85 |
|---|---|---|---|---|
| Correction coefficient | 2.2 | 1.9 | 1.6 | 1.0 |
| Frequency (Hz) | 120 | 300 | 1k | ≧10k |
| Correction coefficient | 1.0 | 1.1 | 1.3 | 1.4 |

Terminal permissible current is limited to 100Arms. (Even if calculated the permissible ripple current with the correction coefficient exceeds 100Arms)
Please consult us when the ripple voltage exceeds 50 Vp-p.

## Product code

(Example) HCGW2 Series 400V 18,000μF±20%

**HCGW2 2G 183 Y F 150 PH**

- HCGW2 — Type of series
- 2G — Rated voltage code
- 183 — Capacitance code
- Y — Type of bracket code
- F — Case dia code
- 150 — Case height code
- PH — Sealing code

Refer to page 21 for product code.

Bracket

- Refer to page 22-23 for shapes and dimensions.
- Product names in the Standard Products Table correspond to the bracket for Type Y, but Type I bracket may be used (Type of bracket code = I).
- If bracket are not necessary, enter “N” for type of bracket code.
- Bracket will be delivered separately.

# HCGW2 Series

Standard Products Table

| Rated Voltage (V. DC) | Capacitance (μF) | Case size φD×L(mm) | tanδ 20℃, 120Hz | Ripple current (Arms) 85℃, 120Hz | ESR(typ.) (mΩ) 20℃, 100Hz | Z max (mΩ) 20℃, 10kHz | ESL(typ.) (nH) | Product name |
|---|---|---|---|---|---|---|---|---|
| 400 | 13,000 | 77×148 | 0.70 | 13.0 | 26 | 27 | 24 | HCGW22G133YE148PH |
| | 16,000 | 77×188 | 0.70 | 15.5 | 21 | 22 | 24 | HCGW22G163YE188PH |
| | 18,000 | 90×150 | 0.70 | 16.4 | 19 | 20 | 24 | HCGW22G183YF150PH |
| | 23,000 | 90×190 | 0.70 | 19.8 | 15 | 16 | 24 | HCGW22G233YF190PH |
| | 33,000 | 90×268 | 0.70 | 27.5 | 10 | 11 | 24 | HCGW22G333YF268PH |
| 450 | 10,000 | 77×148 | 0.70 | 10.9 | 40 | 42 | 24 | HCGW22W103YE148PH |
| | 14,000 | 77×188 | 0.70 | 13.8 | 29 | 30 | 24 | HCGW22W143YE188PH |
| | 15,000 | 90×150 | 0.70 | 14.3 | 27 | 29 | 24 | HCGW22W153YF150PH |
| | 20,000 | 90×190 | 0.70 | 17.6 | 20 | 21 | 24 | HCGW22W203YF190PH |
| | 30,000 | 90×268 | 0.70 | 24.9 | 13 | 14 | 24 | HCGW22W303YF268PH |
| 500 | 7,500 | 77×148 | 0.70 | 9.5 | 47 | 48 | 24 | HCGW22H752YE148PH |
| | 10,000 | 77×188 | 0.70 | 11.7 | 36 | 38 | 24 | HCGW22H103YE188PH |
| | 11,000 | 90×150 | 0.70 | 12.2 | 33 | 34 | 24 | HCGW22H113YF150PH |
| | 15,000 | 90×190 | 0.70 | 15.3 | 24 | 25 | 24 | HCGW22H153YF190PH |
| | 22,000 | 90×268 | 0.70 | 21.3 | 16 | 17 | 24 | HCGW22H223YF268PH |



Life time graph

Useful life depending on ambient temperature Ta and ripple current operating conditions Ⅰ versus rated ripple current at 85℃, 120Hz