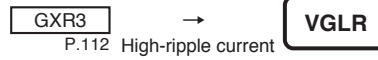


# VGLR Series Useful of 8,000 hours at 105°C

- Conform RoHS

## Features

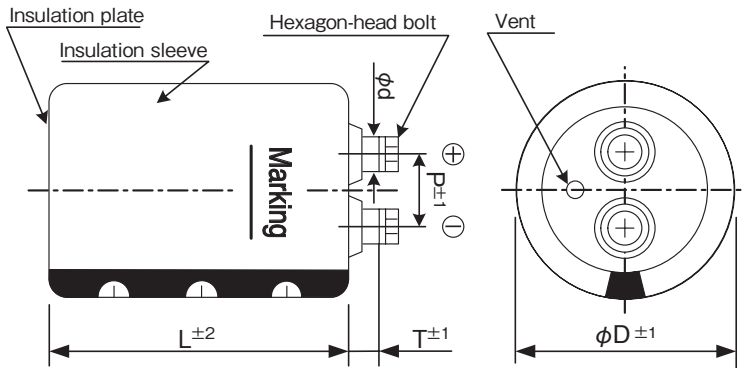
- The permissible ripple current is improved to GXR type by approx. 20~40% using the new heat radiation, low ESR and the new anode foil.



## Product Specifications

| Items                      | Specifications   |
|----------------------------|--|
| Temperature range          | -40°C ~ +105°C   |
| Rated voltage              | 350 ~ 500V.DC  |
| Capacitance tolerance      | ±20% (20°C, 120Hz)   |
| Leakage current            | 0.01CV (μA) or 5mA, whichever is smaller or less (20°C, 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°C, 120Hz)  |
| Permissible ripple current | As specified in the standard product table. (105°C, 120Hz)   |
| Endurance                  | After the rated voltage with specified ripple current is applied at 105°C for 5,000 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°C after storage of 500 hours at 105°C 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 |
|----|------|-----|------|-------------------|--------------|
| 64 | 28.6 | 8.0 | 11.0 | M5×10             | Phenol resin |
| 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 correction coefficient

| Temperature(°C)        |               | 40   | 60   | 85   | 105  |
|------------------------|---------------|------|------|------|------|
| Correction coefficient | 350 ~ 450V.DC | 2.10 | 1.90 | 1.55 | 1.00 |
|                        | 500V.DC       | 2.10 | 2.00 | 1.87 | 1.00 |

### Frequency correction coefficient

| Frequency(Hz)          | 120 | 300 | 1K  | ≥ 10K |
|------------------------|-----|-----|-----|-------|
| Correction coefficient | 1.0 | 1.1 | 1.3 | 1.4   |

### Forced wind correction coefficient

| Forced wind(m/s)       | < 0.5 | 0.5 ≤ |
|------------------------|-------|-------|
| Correction coefficient | 1.0   | 1.1   |

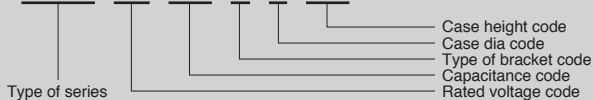
Terminal permissible currents : 60Arms for M5 ; 100Arms for M6.

Please use this type of capacitor at a terminal current below the permissible.

## Product code

(Example) VGLR Series 400V 15,000 μF ±20%

**VGLR 2G 153 Y F 230**



Refer to page 19 for product code.

### Bracket

- Refer to page 20-21 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 the type of bracket code.
- Bracket will be delivered separately.

# SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

VGLR Series

Standard Products Table

| Rated Voltage (V. DC) | Capacitance (μF) | Case size φD×L(mm) | tanδ 20°C, 120Hz | Ripple current (Arms) 105°C, 120Hz | ESR(typ.) (mΩ) 20°C, 100Hz | Z max (mΩ) 20°C, 10kHz | ESL(typ.) (nH) | Product name   |
|-----------------------|------------------|--------------------|------------------|------------------------------------|----------------------------|------------------------|----------------|----------------|
| 350                   | 3,300            | 64×107             | 0.20             | 15.1                               | 29                         | 30                     | 22             | VGLR2V332YD107 |
|                       | 3,900            | 64×123             | 0.20             | 16.8                               | 24                         | 26                     | 22             | VGLR2V392YD123 |
|                       | 4,700            | 64×147             | 0.20             | 18.2                               | 20                         | 21                     | 22             | VGLR2V472YD147 |
|                       |                  | 77×108             | 0.20             | 20.6                               | 20                         | 21                     | 24             | VGLR2V472YE108 |
|                       | 5,600            | 64×164             | 0.20             | 20.3                               | 17                         | 18                     | 22             | VGLR2V562YD164 |
|                       |                  | 77×124             | 0.20             | 23.1                               | 17                         | 18                     | 24             | VGLR2V562YE124 |
|                       | 6,800            | 64×187             | 0.20             | 22.6                               | 14                         | 15                     | 22             | VGLR2V682YD187 |
|                       |                  | 77×148             | 0.20             | 24.9                               | 14                         | 15                     | 24             | VGLR2V682YE148 |
|                       |                  | 90×110             | 0.20             | 28.6                               | 14                         | 15                     | 24             | VGLR2V682YF110 |
|                       | 8,200            | 77×165             | 0.20             | 27.9                               | 12                         | 12                     | 24             | VGLR2V822YE165 |
|                       |                  | 90×150             | 0.20             | 31.0                               | 12                         | 12                     | 24             | VGLR2V822YF150 |
|                       | 10,000           | 77×188             | 0.20             | 31.0                               | 9                          | 10                     | 24             | VGLR2V103YE188 |
|                       |                  | 90×150             | 0.20             | 34.2                               | 9                          | 10                     | 24             | VGLR2V103YF150 |
|                       | 12,000           | 77×228             | 0.20             | 35.1                               | 8                          | 8                      | 24             | VGLR2V123YE228 |
| 90×167                |                  | 0.20               | 36.8             | 8                                  | 8                          | 24                     | VGLR2V123YF167 |                |
| 15,000                | 90×190           | 0.20               | 41.5             | 6                                  | 7                          | 24                     | VGLR2V153YF190 |                |
| 18,000                | 90×230           | 0.20               | 44.3             | 5                                  | 6                          | 24                     | VGLR2V183YF230 |                |
| 400                   | 2,700            | 64×107             | 0.20             | 13.6                               | 35                         | 37                     | 22             | VGLR2G272YD107 |
|                       | 3,300            | 64×123             | 0.20             | 15.5                               | 29                         | 30                     | 22             | VGLR2G332YD123 |
|                       | 3,900            | 64×147             | 0.20             | 16.5                               | 24                         | 26                     | 22             | VGLR2G392YD147 |
|                       |                  | 77×108             | 0.20             | 18.8                               | 24                         | 26                     | 24             | VGLR2G392YE108 |
|                       | 4,700            | 64×164             | 0.20             | 18.6                               | 20                         | 21                     | 22             | VGLR2G472YD164 |
|                       |                  | 77×124             | 0.20             | 21.2                               | 20                         | 21                     | 24             | VGLR2G472YE124 |
|                       | 5,600            | 64×187             | 0.20             | 20.5                               | 17                         | 18                     | 22             | VGLR2G562YD187 |
|                       |                  | 77×148             | 0.20             | 22.6                               | 17                         | 18                     | 24             | VGLR2G562YE148 |
|                       |                  | 90×110             | 0.20             | 26.0                               | 17                         | 18                     | 24             | VGLR2G562YF110 |
|                       | 6,800            | 77×165             | 0.20             | 25.4                               | 14                         | 15                     | 24             | VGLR2G682YE165 |
|                       |                  | 90×150             | 0.20             | 28.2                               | 14                         | 15                     | 24             | VGLR2G682YF150 |
|                       | 8,200            | 77×188             | 0.20             | 28.1                               | 12                         | 12                     | 24             | VGLR2G822YE188 |
|                       |                  | 90×150             | 0.20             | 31.0                               | 12                         | 12                     | 24             | VGLR2G822YF150 |
|                       | 10,000           | 77×228             | 0.20             | 32.0                               | 9                          | 10                     | 24             | VGLR2G103YE228 |
| 90×167                |                  | 0.20               | 33.6             | 9                                  | 10                         | 24                     | VGLR2G103YF167 |                |
| 12,000                | 90×190           | 0.20               | 37.1             | 8                                  | 8                          | 24                     | VGLR2G123YF190 |                |
| 15,000                | 90×230           | 0.20               | 40.4             | 6                                  | 7                          | 24                     | VGLR2G153YF230 |                |
| 450                   | 2,200            | 64×107             | 0.20             | 12.6                               | 43                         | 45                     | 22             | VGLR2W222YD107 |
|                       | 2,700            | 64×123             | 0.20             | 14.4                               | 35                         | 37                     | 22             | VGLR2W272YD123 |
|                       |                  | 77×108             | 0.20             | 16.1                               | 35                         | 37                     | 24             | VGLR2W272YE108 |
|                       | 3,300            | 64×147             | 0.20             | 15.6                               | 29                         | 30                     | 22             | VGLR2W332YD147 |
|                       |                  | 77×124             | 0.20             | 18.2                               | 29                         | 30                     | 24             | VGLR2W332YE124 |
|                       | 3,900            | 64×164             | 0.20             | 17.5                               | 24                         | 26                     | 22             | VGLR2W392YD164 |
|                       |                  | 77×148             | 0.20             | 19.4                               | 24                         | 26                     | 24             | VGLR2W392YE148 |
|                       |                  | 90×110             | 0.20             | 22.3                               | 24                         | 26                     | 24             | VGLR2W392YF110 |
|                       | 4,700            | 64×187             | 0.20             | 19.3                               | 20                         | 21                     | 22             | VGLR2W472YD187 |
|                       |                  | 77×148             | 0.20             | 21.3                               | 20                         | 21                     | 24             | VGLR2W472YE148 |
|                       |                  | 90×126             | 0.20             | 24.2                               | 20                         | 21                     | 24             | VGLR2W472YF126 |
|                       | 5,600            | 77×165             | 0.20             | 23.7                               | 17                         | 18                     | 24             | VGLR2W562YE165 |
|                       |                  | 90×150             | 0.20             | 26.3                               | 17                         | 18                     | 24             | VGLR2W562YF150 |
|                       | 6,800            | 77×188             | 0.20             | 26.3                               | 14                         | 15                     | 24             | VGLR2W682YE188 |
| 90×167                |                  | 0.20               | 28.5             | 14                                 | 15                         | 24                     | VGLR2W682YF167 |                |
| 8,200                 | 77×228           | 0.20               | 29.8             | 12                                 | 12                         | 24                     | VGLR2W822YE228 |                |
|                       | 90×190           | 0.20               | 31.5             | 12                                 | 12                         | 24                     | VGLR2W822YF190 |                |
| 10,000                | 90×230           | 0.20               | 33.9             | 9                                  | 10                         | 24                     | VGLR2W103YF230 |                |
| 500                   | 1,500            | 64×107             | 0.20             | 8.4                                | 69                         | 73                     | 22             | VGLR2H152YD107 |
|                       | 1,800            | 64×123             | 0.20             | 9.5                                | 58                         | 61                     | 22             | VGLR2H182YD123 |
|                       | 2,200            | 64×147             | 0.20             | 10.3                               | 47                         | 50                     | 22             | VGLR2H222YD147 |
|                       |                  | 77×108             | 0.20             | 11.7                               | 47                         | 50                     | 24             | VGLR2H222YE108 |
|                       | 2,700            | 64×187             | 0.20             | 11.8                               | 39                         | 41                     | 22             | VGLR2H272YD187 |
|                       |                  | 77×124             | 0.20             | 13.3                               | 39                         | 41                     | 24             | VGLR2H272YE124 |
|                       | 3,300            | 77×148             | 0.20             | 14.4                               | 32                         | 33                     | 24             | VGLR2H332YE148 |
|                       |                  | 90×110             | 0.20             | 16.5                               | 32                         | 33                     | 24             | VGLR2H332YF110 |
|                       | 3,900            | 77×165             | 0.20             | 15.9                               | 27                         | 28                     | 24             | VGLR2H392YE165 |
|                       |                  | 90×126             | 0.20             | 17.8                               | 27                         | 28                     | 24             | VGLR2H392YF126 |
|                       | 4,700            | 77×188             | 0.20             | 17.6                               | 22                         | 23                     | 24             | VGLR2H472YE188 |
|                       |                  | 90×150             | 0.20             | 19.4                               | 22                         | 23                     | 24             | VGLR2H472YF150 |
|                       | 5,600            | 77×228             | 0.20             | 19.8                               | 19                         | 20                     | 24             | VGLR2H562YE228 |
|                       |                  | 90×167             | 0.20             | 20.8                               | 19                         | 20                     | 24             | VGLR2H562YF167 |
| 6,800                 | 90×190           | 0.20               | 23.1             | 15                                 | 16                         | 24                     | VGLR2H682YF190 |                |
| 8,200                 | 90×230           | 0.20               | 24.7             | 13                                 | 13                         | 24                     | VGLR2H822YF230 |                |

ALUMINUM ELECTROLYTIC CAPACITORS

## Life time graph

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I$  versus rated ripple current at 105°C, 120Hz

ALUMINUM ELECTROLYTIC CAPACITORS

