

## UCGHA Series (105°C 2000H)

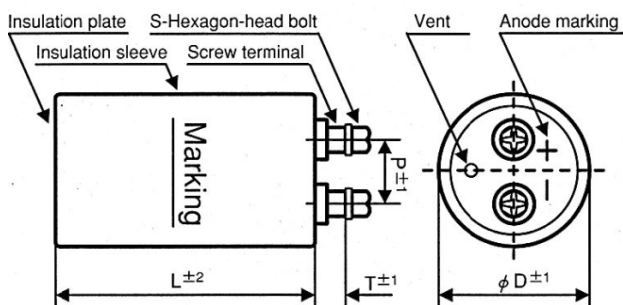
- Compliant to the RoHS directive
- High temperature & High ripple current design
- 105°C 2000H for Industrial Automation、Telecommunication Power Station、Medical Power Supply、Large Power Servo Driver...



### ◆ Specification

| Item                             | Performance Characteristics   |  |
|----------------------------------|---|--|
| Operating range                  | -25°C ~ +105°C  |  |
| Rated voltage range              | 160V ~ 450V   |  |
| Capacitance tolerance            | ±20% (20°C, 120Hz)  |  |
| Leakage current                  | $\leq 0.01CV(\mu A)$ or 5mA (Whichever is smaller) (20°C, after 5 minutes)<br>C=Nominal capacitance( $\mu F$ ), V=Rated voltage(V)  |  |
| Dissipation factor (20°C, 120Hz) | Shall not exceed the values shown in the STANDARD RATINGS   |  |
| Load Life                        | After applying rated voltage with specified ripple current for 2000 hours at 105°C (the peak voltage shall not exceed the rated voltage), and then restored for 24 hours, capacitor shall meet the following requirement: |  |
|                                  | Capacitance change  | Within ±20% of the initial value.                  |
|                                  | Dissipation factor  | Not more than 200% of the initial specified value. |
| Shelf Life                       | After storing for 500 hours at 105°C, UR to be applied for 30 minutes and then restored for 24 hours, capacitor shall meet the following requirement:   |  |
|                                  | Capacitance change  | Within ±20% of the initial value.                  |
|                                  | Dissipation factor  | Not more than 150% of the initial specified value. |
| Standard                         | JIS C 5101-4  |  |

### ◆ Dimensions(Screw-mount)



| ΦD  | P    | S     | T    | Cap material |
|-----|------|-------|------|--------------|
| 36  | 12.7 | M5×10 | 6.4  | Epoxy Resin  |
| 51  | 22.0 | M5×10 | 6.4  | Epoxy Resin  |
| 64  | 28.6 | M5×10 | 6.4  | Epoxy Resin  |
| 77  | 32.0 | M5×10 | 6.4  | Epoxy Resin  |
| 90  | 32.0 | M6×17 | 6.4  | Epoxy Resin  |
| 101 | 41.5 | M8×17 | 11.3 | Epoxy Resin  |

### ◆ Dimensions(Screw-mount)

|               |     |     |     |     |     |
|---------------|-----|-----|-----|-----|-----|
| Frequency(Hz) | 50  | 120 | 300 | 1k  | 3k  |
| Coefficient   | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 |

## ◆ STANDARD RATING

| Rated Voltage code (V.DC) | Capacitance (μF) | Case size ΦD×L(mm) | tanδ<br>20°C, 120Hz | Ripple current<br>105°C, 120Hz<br>(Arms) | ESR(typ.)<br>20°C, 100Hz<br>(mΩ) | Z max<br>20°C, 10KHz<br>(mΩ) | Part number      |
|---------------------------|------------------|--------------------|---------------------|--|----------------------------------|------------------------------|------------------|
| 160<br>2C<br>(200)        | 3300             | 51×100             | 0.25                | 7.3                                      | 35                               | 35                           | UCGHA2C332YC100M |
|                           | 3900             | 64×100             | 0.25                | 8.5                                      | 30                               | 28                           | UCGHA2C392YD100M |
|                           | 4700             | 64×100             | 0.25                | 9.2                                      | 25                               | 25                           | UCGHA2C472YD100M |
|                           | 5600             | 64×100             | 0.25                | 10.9                                     | 23                               | 23                           | UCGHA2C562YD100M |
|                           | 6800             | 77×100             | 0.25                | 12.2                                     | 20                               | 22                           | UCGHA2C682YE100M |
|                           | 8200             | 77×100             | 0.25                | 14.7                                     | 18                               | 19                           | UCGHA2C822YE100M |
|                           | 10000            | 77×115             | 0.25                | 16.1                                     | 15                               | 16                           | UCGHA2C103YE115M |
|                           | 12000            | 77×115             | 0.25                | 17.3                                     | 12                               | 15                           | UCGHA2C123YE115M |
|                           | 15000            | 77×130             | 0.25                | 18.6                                     | 11                               | 12                           | UCGHA2C153YE130M |
|                           | 18000            | 77×155             | 0.25                | 19.2                                     | 9                                | 11                           | UCGHA2C183YE155M |
|                           | 22000            | 90×130             | 0.25                | 20.6                                     | 8                                | 8                            | UCGHA2C223YF130M |
|                           | 27000            | 90×130             | 0.25                | 21.8                                     | 7                                | 8                            | UCGHA2C273YF155M |
|                           | 33000            | 90×130             | 0.25                | 23.6                                     | 6                                | 7                            | UCGHA2C333YF130M |
|                           | 39000            | 90×157             | 0.25                | 24.8                                     | 5                                | 7                            | UCGHA2C393YF157M |
| 200<br>2D<br>(250)        | 2200             | 51×100             | 0.25                | 6.6                                      | 43                               | 60                           | UCGHA2D222YC100M |
|                           | 2700             | 51×100             | 0.25                | 7.4                                      | 31                               | 39                           | UCGHA2D272YC100M |
|                           | 3300             | 51×100             | 0.25                | 8.6                                      | 29                               | 35                           | UCGHA2D332YC100M |
|                           | 3900             | 64×100             | 0.25                | 9.1                                      | 26                               | 30                           | UCGHA2D392YD100M |
|                           | 4700             | 64×100             | 0.25                | 9.9                                      | 25                               | 27                           | UCGHA2D472YD100M |
|                           | 5600             | 64×100             | 0.25                | 10.6                                     | 23                               | 25                           | UCGHA2D562YD100M |
|                           | 6800             | 64×115             | 0.25                | 12.7                                     | 19                               | 20                           | UCGHA2D682YD115M |
|                           | 8200             | 77×100             | 0.25                | 13.7                                     | 15                               | 18                           | UCGHA2D822YE100M |
|                           | 10000            | 77×130             | 0.25                | 17.3                                     | 14                               | 14                           | UCGHA2D103YE130M |
|                           | 12000            | 77×155             | 0.25                | 17.8                                     | 12                               | 14                           | UCGHA2D123YE155M |
|                           | 15000            | 90×130             | 0.25                | 18.9                                     | 10                               | 13                           | UCGHA2D153YF130M |
|                           | 18000            | 90×130             | 0.25                | 26.5                                     | 8                                | 12                           | UCGHA2D183YF130M |
|                           | 22000            | 90×130             | 0.25                | 20.7                                     | 7                                | 7                            | UCGHA2D223YF130M |
|                           | 27000            | 90×157             | 0.25                | 24.8                                     | 6                                | 7                            | UCGHA2D273YF157M |
| 33000                     | 90×157           | 0.25               | 31.1                | 5  | 7                                | UCGHA2D333YF157M             |                  |
| 250<br>2E<br>(300)        | 1500             | 51×100             | 0.25                | 5.8                                      | 53                               | 50                           | UCGHA2E152YC100M |
|                           | 1800             | 51×100             | 0.25                | 6.9                                      | 46                               | 44                           | UCGHA2E182YC100M |
|                           | 2200             | 51×100             | 0.25                | 7.3                                      | 38                               | 40                           | UCGHA2E222YC100M |
|                           | 2700             | 51×100             | 0.25                | 8.1                                      | 33                               | 36                           | UCGHA2E272YC100M |
|                           | 3300             | 64×100             | 0.25                | 8.9                                      | 28                               | 35                           | UCGHA2E332YD100M |
|                           | 3900             | 64×100             | 0.25                | 10.6                                     | 25                               | 30                           | UCGHA2E392YD100M |
|                           | 4700             | 64×100             | 0.25                | 12.8                                     | 21                               | 23                           | UCGHA2E472YD100M |
|                           | 5600             | 77×100             | 0.25                | 14.3                                     | 19                               | 21                           | UCGHA2E562YE100M |
|                           | 6800             | 77×115             | 0.25                | 15.4                                     | 15                               | 18                           | UCGHA2E682YE115M |
|                           | 8200             | 77×130             | 0.25                | 16.4                                     | 13                               | 16                           | UCGHA2E822YE130M |
|                           | 10000            | 77×130             | 0.25                | 17.3                                     | 12                               | 14                           | UCGHA2E103YE130M |
|                           | 12000            | 90×130             | 0.25                | 18.1                                     | 10                               | 11                           | UCGHA2E123YF130M |
|                           | 15000            | 90×157             | 0.25                | 18.9                                     | 8                                | 11                           | UCGHA2E153YF157M |
|                           | 18000            | 90×157             | 0.25                | 20.3                                     | 7                                | 10                           | UCGHA2E183YF157M |
| 22000                     | 90×157           | 0.25               | 21.9                | 6  | 8                                | UCGHA2E223YF157M             |                  |
| 350<br>2V<br>(400)        | 560              | 51×80              | 0.20                | 3.5                                      | 194                              | 222                          | UCGHA2V561YC080M |
|                           | 680              | 51×80              | 0.20                | 4.2                                      | 156                              | 197                          | UCGHA2V681YC080M |
|                           | 820              | 51×100             | 0.20                | 4.8                                      | 130                              | 174                          | UCGHA2V821YC100M |
|                           | 1000             | 51×100             | 0.20                | 5.5                                      | 109                              | 135                          | UCGHA2V102YC100M |
|                           | 1200             | 64×100             | 0.20                | 6.1                                      | 90                               | 120                          | UCGHA2V122YD100M |
|                           | 1500             | 64×100             | 0.20                | 6.9                                      | 77                               | 100                          | UCGHA2V152YD100M |
|                           | 1800             | 64×115             | 0.20                | 7.4                                      | 62                               | 80                           | UCGHA2V182YD115M |
|                           | 2200             | 77×100             | 0.20                | 8.8                                      | 51                               | 70                           | UCGHA2V222YE100M |
|                           | 2700             | 77×100             | 0.20                | 10.4                                     | 41                               | 58                           | UCGHA2V272YE100M |
| 3300                      | 77×100           | 0.20               | 11.2                | 35                                       | 51                               | UCGHA2V332YE100M             |                  |

## ◆ STANDARD RATING

| Rated Voltage code (V.DC) | Capacitance (μF) | Case size ΦD×L(mm) | tanδ<br>20°C, 120Hz | Ripple current<br>85°C, 120Hz (Arms) | ESR(typ.)<br>20°C, 100Hz<br>(mΩ) | Z max<br>20°C, 10KHz<br>(mΩ) | Part number      |
|---------------------------|------------------|--------------------|---------------------|--------------------------------------|----------------------------------|------------------------------|------------------|
| 350<br>2V<br>(400)        | 3900             | 77×115             | 0.20                | 13.3                                 | 30                               | 47                           | UCGHA2V392YE115M |
|                           | 4700             | 77×130             | 0.20                | 14.6                                 | 28                               | 40                           | UCGHA2V472YE130M |
|                           | 5600             | 77×130             | 0.20                | 15.4                                 | 25                               | 35                           | UCGHA2V562YE130M |
|                           | 6800             | 77×130             | 0.20                | 16.8                                 | 20                               | 29                           | UCGHA2V682YE130M |
|                           | 8200             | 77×155             | 0.20                | 19.6                                 | 17                               | 25                           | UCGHA2V822YE155M |
|                           | 10000            | 77×155             | 0.20                | 22.5                                 | 15                               | 23                           | UCGHA2V103YE155M |
|                           |                  | 90×157             | 0.20                | 22.5                                 | 15                               | 23                           | UCGHA2V103YF157M |
|                           | 12000            | 90×157             | 0.20                | 27.3                                 | 13                               | 21                           | UCGHA2V123YF157M |
|                           | 15000            | 90×196             | 0.20                | 33.1                                 | 10                               | 20                           | UCGHA2V153YF196M |
|                           | 18000            | 90×220             | 0.20                | 40.5                                 | 8                                | 20                           | UCGHA2V183YF220M |
| 22000                     | 90×236           | 0.20               | 46.9                | 8                                    | 20                               | UCGHA2V223YF236M             |                  |
| 400<br>2G<br>(450)        | 680              | 51×80              | 0.20                | 5.5                                  | 122                              | 214                          | UCGHA2G681YC080M |
|                           | 820              | 51×80              | 0.20                | 6.9                                  | 101                              | 177                          | UCGHA2G821YC080M |
|                           | 1000             | 51×80              | 0.20                | 8.1                                  | 85                               | 150                          | UCGHA2G102YC080M |
|                           | 1200             | 51×100             | 0.20                | 8.8                                  | 75                               | 125                          | UCGHA2G122YC100M |
|                           | 1500             | 51×100             | 0.20                | 9.3                                  | 62                               | 108                          | UCGHA2G152YC100M |
|                           | 1800             | 51×100             | 0.20                | 10.2                                 | 51                               | 90                           | UCGHA2G182YC100M |
|                           | 2200             | 64×100             | 0.20                | 11.7                                 | 39                               | 75                           | UCGHA2G222YD100M |
|                           | 2700             | 77×100             | 0.20                | 13.0                                 | 36                               | 66                           | UCGHA2G272YE100M |
|                           | 3300             | 77×115             | 0.20                | 14.5                                 | 35                               | 53                           | UCGHA2G332YE115M |
|                           | 3900             | 77×115             | 0.20                | 17.5                                 | 29                               | 48                           | UCGHA2G392YE115M |
|                           | 4700             | 77×115             | 0.20                | 19.5                                 | 26                               | 41                           | UCGHA2G472YE115M |
|                           | 5600             | 77×130             | 0.20                | 23.2                                 | 21                               | 37                           | UCGHA2G562YE130M |
|                           | 6800             | 77×155             | 0.20                | 26.7                                 | 18                               | 30                           | UCGHA2G682YE155M |
|                           | 8200             | 90×157             | 0.20                | 30.1                                 | 16                               | 26                           | UCGHA2G822YF157M |
|                           | 10000            | 90×157             | 0.20                | 33.7                                 | 13                               | 23                           | UCGHA2G103YF157M |
| 12000                     | 90×157           | 0.20               | 39.8                | 12                                   | 21                               | UCGHA2G123YF157M             |                  |
| 15000                     | 90×220           | 0.20               | 41.5                | 10                                   | 21                               | UCGHA2G153YF220M             |                  |
| 450<br>2W<br>(500)        | 680              | 51×80              | 0.20                | 5.9                                  | 142                              | 196                          | UCGHA2W681YC080M |
|                           | 820              | 51×80              | 0.20                | 7.2                                  | 99                               | 187                          | UCGHA2W681YC080M |
|                           | 1000             | 51×80              | 0.20                | 8.5                                  | 84                               | 154                          | UCGHA2W102YC080M |
|                           | 1200             | 51×100             | 0.20                | 9.1                                  | 73                               | 129                          | UCGHA2W122YC100M |
|                           | 1500             | 51×115             | 0.20                | 9.7                                  | 60                               | 108                          | UCGHA2W152YC115M |
|                           | 1800             | 51×130             | 0.20                | 10.6                                 | 48                               | 100                          | UCGHA2W182YC130M |
|                           | 2200             | 64×115             | 0.20                | 12.1                                 | 35                               | 84                           | UCGHA2W222YD115M |
|                           | 2700             | 77×115             | 0.20                | 13.5                                 | 35                               | 69                           | UCGHA2W272YE115M |
|                           | 3300             | 77×130             | 0.20                | 15.0                                 | 32                               | 61                           | UCGHA2W332YE130M |
|                           | 3900             | 77×130             | 0.20                | 18.4                                 | 32                               | 51                           | UCGHA2W392YE130M |
|                           | 4700             | 77×155             | 0.20                | 20.9                                 | 26                               | 43                           | UCGHA2W472YE155M |
|                           | 5600             | 77×155             | 0.20                | 23.8                                 | 18                               | 37                           | UCGHA2W562YE155M |
|                           | 6800             | 90×157             | 0.20                | 26.5                                 | 16                               | 33                           | UCGHA2W682YF157M |
|                           | 8200             | 90×157             | 0.20                | 29.6                                 | 14                               | 30                           | UCGHA2W822YF157M |
|                           | 10000            | 90×196             | 0.20                | 32.5                                 | 12                               | 25                           | UCGHA2W103YF196M |
| 12000                     | 90×236           | 0.20               | 39.7                | 10                                   | 22                               | UCGHA2W123YF236M             |                  |

- The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 10°C rise.
- When long life performance is required in actual use, the rms ripple current has to be reduced.