

## ■ Characteristics

| Item                                                  | Classification                        | Standard model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact resistance *1                                 |                                       | 100 mΩ max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Operate time                                          |                                       | 10 ms max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Release time                                          |                                       | 5 ms max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Insulation resistance *2                              |                                       | 1,000 MΩ min.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dielectric strength                                   | Between coil and contacts             | 4,000 VAC, 50/60 Hz for 1 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                       | Between contacts of the same polarity | 1,000 VAC, 50/60 Hz for 1 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Impulse withstand voltage (between coil and contacts) |                                       | 8 kV (1.2 x 50 μs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Vibration resistance                                  | Destruction                           | 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                       | Malfunction                           | 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Shock resistance                                      | Destruction                           | 1,000 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                       | Malfunction                           | 100 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Durability                                            | Mechanical                            | 10,000,000 operations (18,000 operations per hour)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                       | Electrical                            | <ul style="list-style-type: none"> <li>• NO               <ul style="list-style-type: none"> <li>25,000 operations: 10 A at 250 VAC resistive load (operation: ON for 1 sec, OFF for 3 sec) &lt;High-capacity type&gt;</li> <li>50,000 operations: 10 A at 125 VAC resistive load (operation: ON for 1 sec, OFF for 3 sec)</li> <li>200,000 operations: 3 A at 125 VAC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> <li>50,000 operations: 5 A at 250 VAC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> <li>100,000 operations: 3 A at 250 VAC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> <li>100,000 operations: 5 A at 30 VDC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> </ul> </li> <li>• NC               <ul style="list-style-type: none"> <li>200,000 operations: 3 A at 125 VAC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> <li>100,000 operations: 3 A at 250 VAC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> <li>100,000 operations: 3 A at 30 VDC resistive load (operation: ON for 1 sec, OFF for 1 sec)</li> </ul> </li> </ul> |
| Failure rate (P level) (reference *3)                 |                                       | 10 mA at 5 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Ambient operating temperature                         |                                       | -40°C to 105°C (with no icing or condensation)<br>-40°C to 85°C (with no icing or condensation) <High-capacity type>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Ambient operating humidity                            |                                       | 5% to 85%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Weight                                                |                                       | Approx. 6.5 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Note. Note. Values in the above table are the initial values at 23°C.

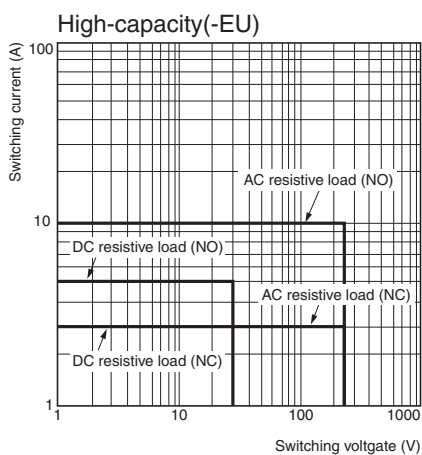
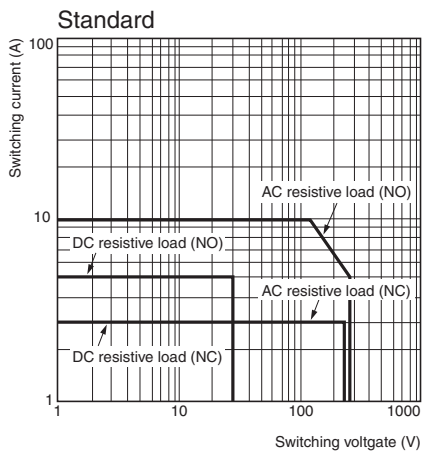
\*1. The contact resistance is possible with 1 A applied at 5 VDC using a fall-of-potential method.

\*2. Testing conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the dielectric strength was measured.

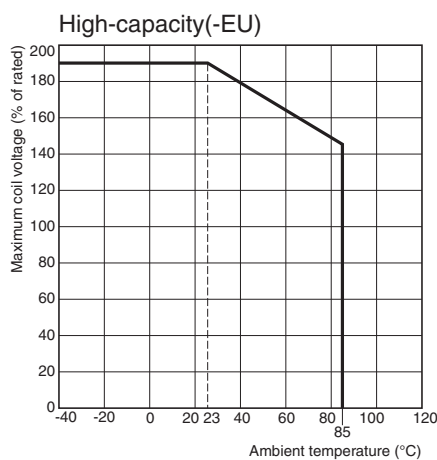
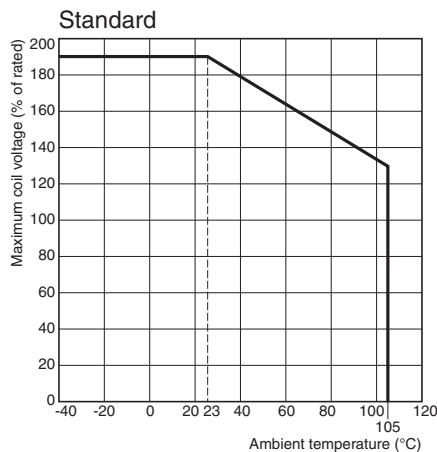
\*3. This value was measured at a switching frequency of 120 operations/min.

## Engineering Data

### Maximum Switching Capacity

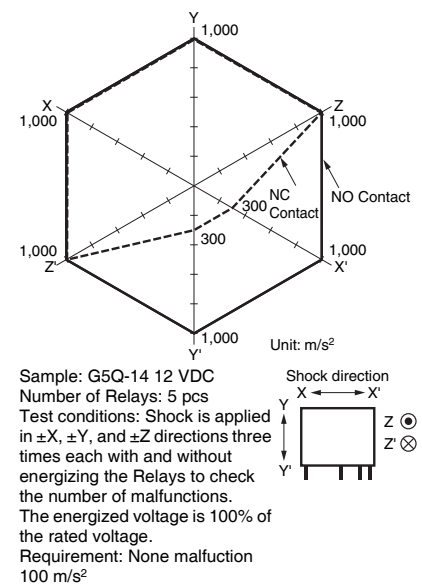


### Ambient Temperature VS. Maximum Coil Voltage



Note. The Maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

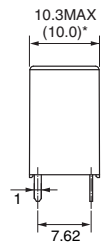
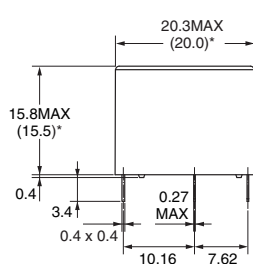
### Shock Malfunction



## Dimensions

(Unit: mm)

### G5Q-1A(4)(-EU)(-HA)

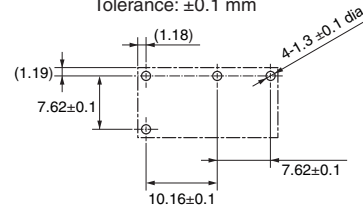


\* Average value

#### PCB Mounting Holes

(Bottom View)

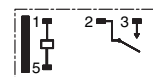
Tolerance:  $\pm 0.1$  mm



#### Terminal Arrangement/

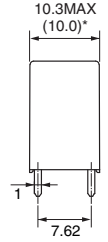
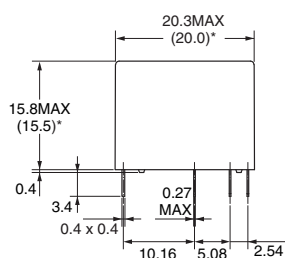
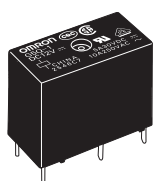
Internal Connections

(Bottom View)



(No coil polarity)

### G5Q-1(4)(-EU)(-HA)(-PW)

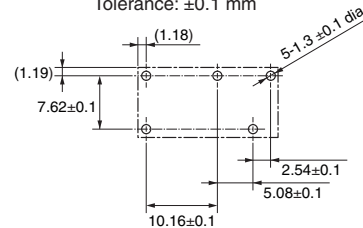


\* Average value

#### PCB Mounting Holes

(Bottom View)

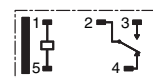
Tolerance:  $\pm 0.1$  mm



#### Terminal Arrangement/

Internal Connections

(Bottom View)



(No coil polarity)