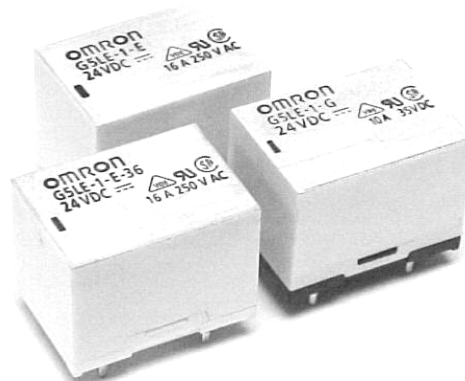


## Single-pole 10A35VDC 0.8mm Contact Gap Power Relay : G5LE-G

## Single-pole 16A250VAC Power Relay : G5LE-E

- Sub-miniature 'sugar cube' relay with universal terminal footprint.
- UL class-F coil insulation system.
- Tracking resistance: CTI>250.
- Withstands impulse of up to 4,500 V.
- RoHS compliant.



## Ordering Information

| Enclosure Rating | Contact Form | Rated load |            |
|------------------|--------------|------------|------------|
|                  |              | 10A 35VDC  | 16A 250VAC |
| Flux protection  | SPDT         | G5LE-1-G   | G5LE-1-E   |
|                  | SPST-NO      | G5LE-1A-G  | G5LE-1A-E  |

**Note:** When ordering, add the rated coil voltage to the number.

Examples : G5LE-1-E 12 VDC  
└──────────┘ Rated coil voltage

### Model Number Legend

G5LE - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 VDC

#### 1. Number of Poles

1 : 1 pole

#### 2. Contact Form

None : SPDT  
 A : SPST-NO

#### 3. Enclosure ratings

None : Flux protection

#### 4. Insulation System

None : Class F (155°C)

#### 8 Rated Coil Voltage

5, 12 & 24 (for suffix-E)  
 9, 12, 20 & 24 (for suffix-G)

#### 5. Classification

G : 0.8mm contact gap type  
 E : High capacity type

#### 6. Coil Power Consumption / Coil Characteristics

None : Approx. 400mW (applicable to suffix -E only)  
 None : Approx. 700mW (applicable to suffix -G only)  
 36 : Approx. 360mW (applicable to suffix -E only)

#### 7. Packaging

None : Standards Polystyrene tray  
 SP : Anti-static Tube packing

# Specifications

## ■ Coil Ratings

### 700-mW Type (G5LE-G)

| Rated voltage        | 9 VDC  | 12 VDC         | 20 VDC         | 24 VDC         |
|----------------------|--|----------------|----------------|----------------|
| Rated current        | 77.8 mA  | 58.3 mA        | 35.0 mA        | 29.2 mA        |
| Coil resistance      | 115.7 $\Omega$   | 205.7 $\Omega$ | 571.4 $\Omega$ | 822.9 $\Omega$ |
| Must operate voltage | 75% of rated voltage (max.)                                  |                |                |                |
| Must release voltage | 10% of rated voltage (min.)                                  |                |                |                |
| Max. voltage         | 120% of rated voltage at 85°C, 150% of rated voltage at 23°C |                |                |                |
| Power consumption    | Approx. 700 mW   |                |                |                |

Note: The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .

### 400-mW Type (G5LE-E)

| Rated voltage        | 5 VDC  | 12 VDC         | 24 VDC          |
|----------------------|--|----------------|-----------------|
| Rated current        | 80.0 mA  | 33.3 mA        | 16.7 mA         |
| Coil resistance      | 62.5 $\Omega$  | 360.0 $\Omega$ | 1440.0 $\Omega$ |
| Must operate voltage | 75% of rated voltage (max.)                                  |                |                 |
| Must release voltage | 10% of rated voltage (min.)                                  |                |                 |
| Max. voltage         | 130% of rated voltage at 85°C, 170% of rated voltage at 23°C |                |                 |
| Power consumption    | Approx. 400 mW   |                |                 |

Note: The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .

### 360-mW Type (G5LE-E-36)

| Rated voltage        | 5 VDC  | 12 VDC         | 24 VDC          |
|----------------------|--|----------------|-----------------|
| Rated current        | 72.0 mA  | 30.0 mA        | 15.0 mA         |
| Coil resistance      | 69.4 $\Omega$  | 400.0 $\Omega$ | 1600.0 $\Omega$ |
| Must operate voltage | 75% of rated voltage (max.)                                  |                |                 |
| Must release voltage | 10% of rated voltage (min.)                                  |                |                 |
| Max. voltage         | 130% of rated voltage at 85°C, 170% of rated voltage at 23°C |                |                 |
| Power consumption    | Approx. 360 mW   |                |                 |

Note: The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .

## ■ Contact Ratings

| Item                    | G5LE-G                         | G5LE-E/-E-36                   |
|-------------------------|--------------------------------|--------------------------------|
| Load                    | Resistive load (cos $\phi=1$ ) | Resistive load (cos $\phi=1$ ) |
| Rated load              | 10A at 35VDC                   | 16A at 250VAC                  |
| Rated carry current     | 10A                            | 16A                            |
| Max. switching voltage  | 35VDC                          | 250VAC                         |
| Max. switching current  | DC : 10A                       | AC : 16A                       |
| Max. switching capacity | 350W                           | 4000VA                         |
| Min. permissible load   | 100mA at 5VDC                  | 100mA at 5VDC                  |

## ■ Characteristics

|                                  |  |
|----------------------------------|--|
| <b>Contact resistance</b>        | 100mΩ max.   |
| <b>Operate time</b>              | 10ms max.  |
| <b>Release time</b>              | 5ms max.   |
| <b>Bounce time</b>               | Operate : Approx. 0.6 ms<br>Release : Approx. 7.2 ms   |
| <b>Max. switching frequency</b>  | Mechanical : 18,000 operations/hr<br>Electrical : *1,800 operations/hr   |
| <b>Insulation resistance</b>     | 100MΩ min. (at 500VDC)   |
| <b>Dielectric strength</b>       | 750VAC (for suffix -E), 50/60 Hz for 1 min. between contacts of same polarity<br>1500VAC (for suffix -G), 50/60 Hz for 1 min. between contacts of same polarity<br>2,000VAC, 50/60 Hz for 1 min. between coil and contacts |
| <b>Impulse withstand voltage</b> | 4,500V between coil and contacts, 1.2 X 50 μsec  |
| <b>Vibration resistance</b>      | Destruction : 10 to 55Hz, 1.5mm double amplitude<br>Malfunction : 10 to 55Hz, 1.5mm double amplitude   |
| <b>Shock resistance</b>          | Destruction : 1,000m/s <sup>2</sup> (approx. 100G)<br>Malfunction : 100m/s <sup>2</sup> (approx. 10G)  |
| <b>Life expectancy</b>           | Mechanical : 10,000,000 operations min. (at 18,000 operations/hr)<br>Electrical : *100,000 operations min. (at 1,800 operations/hr, 12A 250VAC)  |
| <b>Ambient temperature</b>       | Operating : -40°C to 85°C  |
| <b>Ambient humidity</b>          | Operating : 35% to 85%   |
| <b>Weight</b>                    | Approx. : 12g  |

Note : \* Applicable for G5LE-1-E normally open contact only.

## ■ Approved Standards

**UL508, UL114, UL478, UL325, UL873, UL1409 (File No. E41643)/CSA  
C22.2 No. 14, No. 1 (File No. LR31928)**

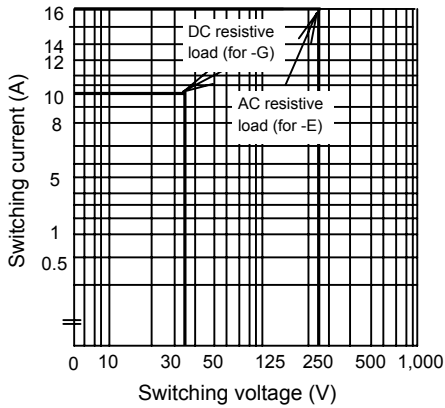
| Model        | Coil ratings | Contact ratings  |
|--------------|--------------|--|
| G5LE-E/-E-36 | 5 to 24 VDC  | 16 A, 250 VAC (general use, normally open contact, 50,000 cycles)<br>12 A, 250 VAC (general use, normally open contact, 105°C, 100,000 cycles)<br>12 A, 250 VAC (general use, normally close contact, 30,000 cycles) |
| G5LE-G       | 9 to 24 VDC  | 10 A, 35 VDC (resistive, normally open contact, 100,000 cycles)<br>10 A, 35 VDC (resistive, normally close contact, 50,000 cycles)   |

## EN61810-1 (2nd Ed) / EN60255-25 (VDE Reg. No. 6850)

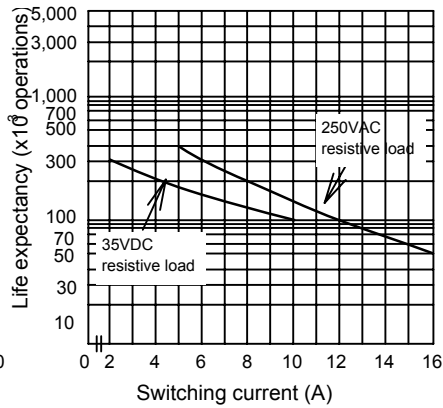
| Model        | Coil Rating | Contact rating   |
|--------------|-------------|--|
| G5LE-E/-E-36 | 5 to 24 VDC | 16 A, 250 VAC (resistive, normally open contact, 85°C 50,000 cycles)<br>12 A, 250 VAC (resistive, normally open contact, 105°C, 75,000 cycles) |
| G5LE-G       | 9 to 24 VDC | 10 A, 35 VDC (resistive, normally open contact, 100,000 cycles)<br>10 A, 35 VDC (resistive, normally close contact, 50,000 cycles)             |

# Engineering Data

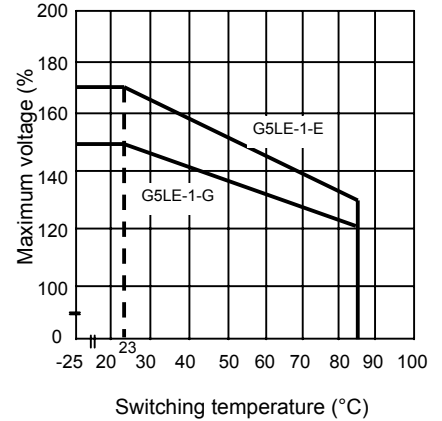
**Max. Switching Capacity**



**Life Expectancy**



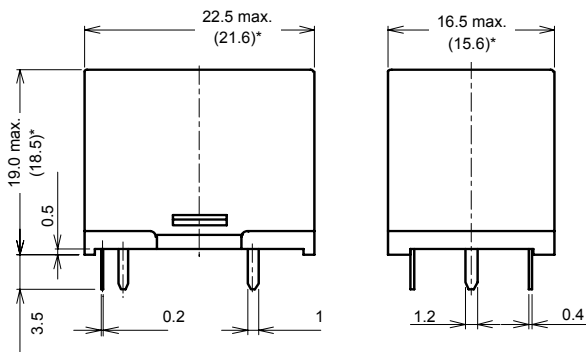
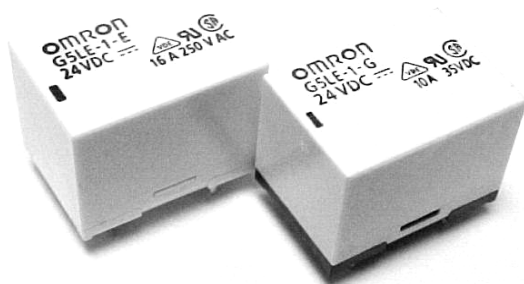
**Ambient Temp. Vs Max. Voltage**



**Note:** The maximum coil voltage refers to the maximum value in a varyin range of operating power voltage not a continuous voltage

# Dimensions

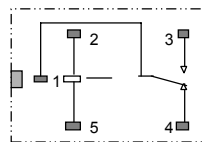
- Note: 1. All units are in millimeters unless otherwise indicated.  
 2. Orientation marks are indicated as follows :



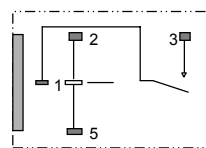
\*Average value

**Terminal Arrangement/Internal Connections (Bottom View)**

**SPDT**

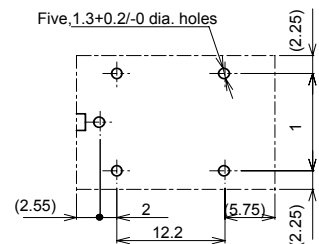


**SPST-NO**

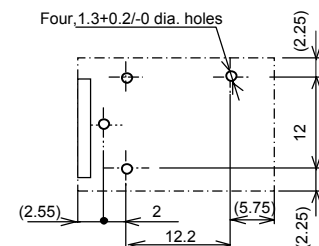


**Mounting Holes (Bottom View)**  
Tolerance: ±0.1 mm unless specified

**SPDT**



**SPST-NO**



# Packaging

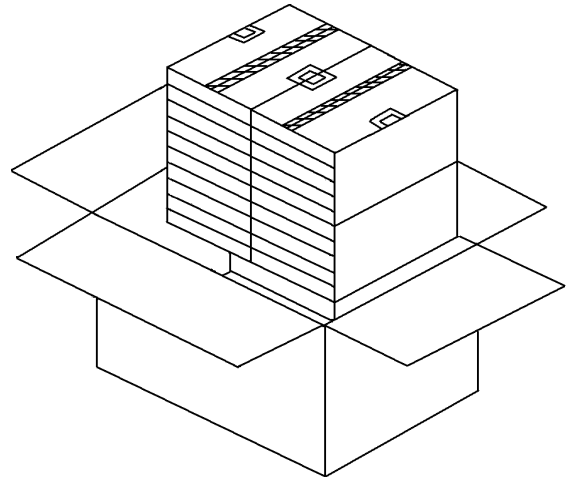
**Note :** 1. All units are millimeters unless otherwise indicated.

## ■ Polystyrene Trays Packing

|                  |   |                          |                  |
|------------------|---|--------------------------|------------------|
| 1 Polystyrene    | = | 100                      | pcs relay        |
| 1 Sleeve Packing | = | 5                        | polystyrene tray |
| 1 Carton         | = | 4                        | sleeve packing   |
|                  | = | <b>2000</b>              | <b>pcs relay</b> |
| Weight           | = | Approx. 24 Kg per carton |                  |

- Size of polystyrene tray: Approx. 311 x 196 x 35mm (L x W xH)

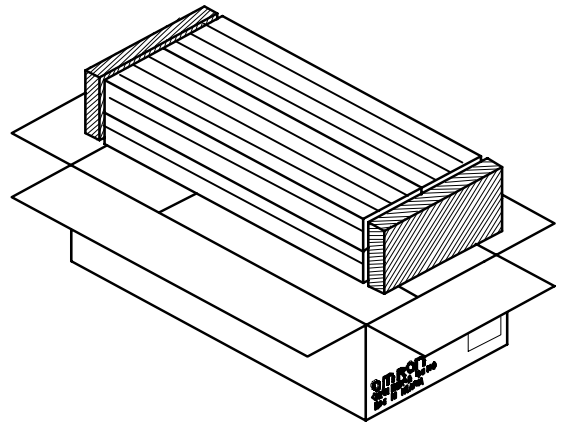
- Size of Carton: Approx. 450 x 316 x 320 mm (L x W xH)



## ■ Tube Packing

|          |   |                          |        |
|----------|---|--------------------------|--------|
| 1 Tube   | = | 25                       | relays |
| 1 Carton | = | 40                       | tubes  |
|          | = | 1,000                    | relays |
| Weight   | = | Approx. 12 Kg per carton |        |

- Size of Carton: Approx. 512 x 252 x 105 mm (L x W xH)



## ■ Ordering Information - Packaging

|                |        |            |                              |
|----------------|--------|------------|------------------------------|
| G5LE-1-E-□DC12 | by OMB | <u>KEY</u> | <u>DESCRIPTION</u>           |
|                |        | None       | : Standards Polystyrene tray |
|                |        | SP         | : Anti-static Tube packing   |

|                |        |            |                              |
|----------------|--------|------------|------------------------------|
| G5LE-1-G-□DC20 | by OMB | <u>KEY</u> | <u>DESCRIPTION</u>           |
|                |        | None       | : Standards Polystyrene tray |
|                |        | SP         | : Anti-static Tube packing   |

**ALL DIMENSION SHOWN ARE IN MILLIMETERS**

To convert into inches, multiply by 0.03937, To convert grams into ounces, multiply by 0.03527