

# PCB Relay G5LE

## A Cubic, Single-pole 10-A Power Relay

- Subminiature “sugar cube” relay.
- Contact ratings of 10 A.
- Withstands impulses of up to 4,500 V.
- Two types of seal available: flux protection and plastic-sealed.
- UL class-B insulation certified, UL class-F available.
- Manufacturing facility in compliance with QS9000 automotive quality system standards.
- Ideal for applications in security equipment, household electrical appliances, garage door openers, and audio equipment.
- RoHS Compliant.



## Ordering Information

To Order: Select the part number and add the desired coil voltage rating (e.g., G5LE-DC12).

Seal	Contact form	Model	
		Contact Material	
		AgSnO <sub>2</sub>	AgSnIn
Flux protection	SPDT	<b>G5LE-1</b>	<b>G5LE-1-ASI</b>
	SPST-NO	<b>G5LE-1A</b>	<b>G5LE-1A-ASI</b>
Plastic-sealed	SPDT	<b>G5LE-14</b>	<b>G5LE-14-ASI</b>
	SPST-NO	<b>G5LE-1A4</b>	<b>G5LE-1A4-ASI</b>

## Model Number Legend

G5LE-□ □ □-□-□  
1 2 3 4 5

### 1. Number of Poles

1: 1 pole

### 2. Contact Form

None: SPDT

A: SPST-NO

### 3. Sealing

None: Flux-protection

4: Plastic-sealed

### 4. Contact Material

None: AgSnO<sub>2</sub>

ASI: AgSnIn

### 5. Insulation Class

None: Class B insulation

CF: Class F insulation

# Specifications

## ■ Coil Data

<b>Rated voltage</b>	3 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC	48 VDC
<b>Rated current</b>	136.4 mA	79.4 mA	66.7 mA	45 mA	33.3 mA	16.7 mA	8.33 mA
<b>Coil resistance</b>	22.5Ω	63 Ω	90 Ω	200 Ω	360 Ω	1,440 Ω	5,760 Ω
<b>Must operate voltage</b>	75% of rated voltage (max.)						
<b>Must release voltage</b>	10% of rated voltage (min.)						
<b>Max. voltage</b>	133% of rated voltage at 70°C (158°F), 170% of rated voltage at 23°C (73°F)						
<b>Power consumption</b>	Approx. 400 mW						

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.
  2. 360 mW coil is available. Contact Omron for details.
  3. VDE approved model available. Contact Omron for details.

## ■ Contact Data

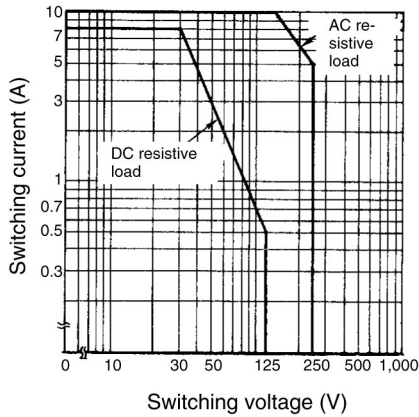
<b>Load</b>	Resistive load ( $\cos\phi = 1$ )	
<b>Rated load</b>	10 A at 120 VAC; 8 A at 30 VDC	
<b>Rated carry current</b>	10 A	
<b>Max. switching voltage</b>	250 VAC, 125 VDC	
<b>Max. switching current</b>	<b>AC</b>	10 A
	<b>DC</b>	8 A
<b>Max. switching capacity</b>	1,200 VA, 240 W	
<b>Min. permissible load</b>	100 mA at 5 VDC	

## ■ Characteristics

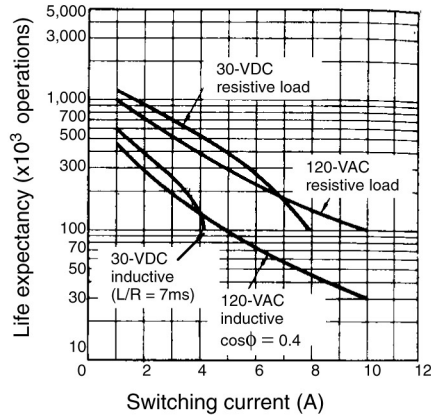
<b>Contact resistance</b>	100 mΩ max.	
<b>Operate time</b>	10 ms max.	
<b>Release time</b>	5 ms max.	
<b>Bounce time</b>	<b>Operate</b>	Approx. 0.6 ms
	<b>Release</b>	Approx. 7.2 ms
<b>Max. switching frequency</b>	<b>Mechanical</b>	18,000 operations/hr
	<b>Electrical</b>	1,800 operations/hr (under rated load)
<b>Insulation resistance</b>	100 MΩ min. (at 500 VDC)	
<b>Dielectric strength</b>	750 VAC, 50/60 Hz for 1 min between contacts of same polarity 2,000 VAC, 50/60 Hz for 1 min between coil and contacts	
<b>Impulse withstand voltage</b>	4,500 V between coil and contacts	
<b>Vibration resistance</b>	<b>Destruction</b>	10 to 55 Hz, 1.5-mm double amplitude
	<b>Malfunction</b>	10 to 55 Hz, 1.5-mm double amplitude
<b>Shock resistance</b>	<b>Destruction</b>	1,000 m/s <sup>2</sup> (approx. 100G)
	<b>Malfunction</b>	100 m/s <sup>2</sup> (approx. 10G)
<b>Life expectancy</b>	<b>Mechanical</b>	10,000,000 operations min. (at 1,800 operations/hr)
	<b>Electrical</b>	100,000 operations min. (at 1,800 operations/hr)
<b>Ambient temperature</b>	<b>Operating</b>	-40°C to 85°C (-13°F to 185°F)
<b>Ambient humidity</b>		35% to 85%
<b>Weight</b>	Approx. 12 g (0.42 oz)	

## Characteristic Data

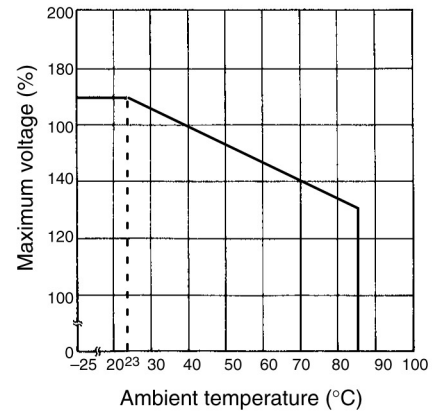
Max. Switching Capacity G5LE



Life Expectancy G5LE



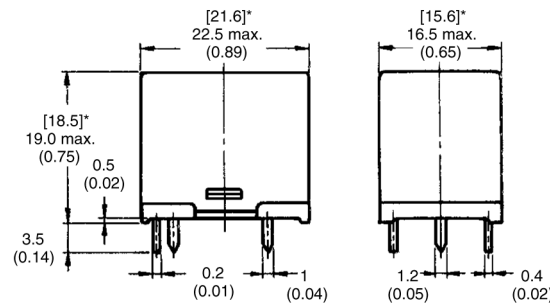
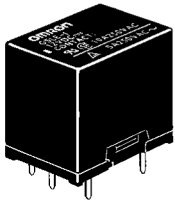
Ambient Temperature vs. Maximum Voltage



## Dimensions

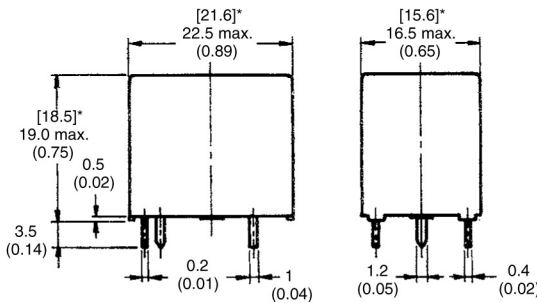
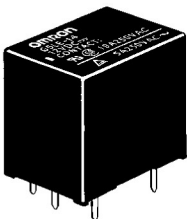
Unit: mm (inch)

### G5LE-1(A)



\*Average value

### G5LE-1(A)4

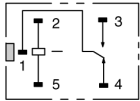


\*Average value

Standard

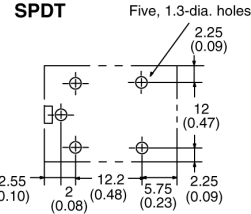
Terminal Arrangement/  
Internal Connections  
(Bottom View)

SPDT

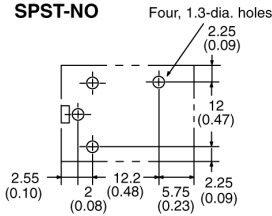
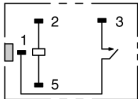


Mounting Holes  
(Bottom View)

Tolerance: ±0.1 mm



SPST-NO



Note: Orientation marks are indicated as follows:

UL325, UL508, UL60950 (File No. E41643) / CSA C22.2 No. 14 (File No. LR34815)

Model	Coil Rating	Contact ratings for AgSnO2
G5LE	3 to 48 VDC	<p><b>N.O. Contacts</b></p> <p>10 A, 250 VAC, general use              8 A, 30 VDC, resistive load              1/6 hp, 120 VAC, 50,000 cycles              6 A, 277 VAC, general use, 100,000 cycles              10 A, 125 VAC, general use, 100,000 cycles              12 A, 120 VAC, resistive load, 30,000 cycles              6 FLA, 6 LRA, 120 VAC, 100,000 cycles, 85°C ambient              4 FLA, 4 LRA, 120 VAC, 100,000 cycles, 105°C ambient              125 VA, 120 VAC, pilot duty, 100,000 cycles              5 FLA, 30 LRA, 120 VAC              TV - 3, 120 VAC              5 A, 125 VAC, general use, 30,000 cycles, 70°C ambient              1/2 hp, 125 VAC, 100,000 cycles              200W-T (1.6 A), 125 VAC, Tungsten, 100,000 cycles              125 VA, 125 VAC, pilot duty, 100,000 cycles, 105°C              13 A, 120 VAC, resistive, 100,000 cycles, 87°C              2.5 FLS, 15.0 LRA, 120 VAC, 100,000 cycles at 80°C                  with 75,000 cycles at 5 Sec. ON / 5 Sec. OFF                  and 25,000 cycles at 30 Sec. ON / 30 Sec. OFF</p> <p><b>N.C. Contacts</b></p> <p>10 A, 250 VAC, general use              8 A, 30 VDC, resistive load              1/8 hp, 120 VAC, 50,000 cycles              6 A, 277 VAC, general use, 50,000 cycles              10 A, 125 VAC, general use, 100,000 cycles              12 A, 120 VAC, resistive load, 30,000 cycles              6 FLA, 6 LRA, 120 VAC, 100,000 cycles, 85°C ambient              2 FLA, 4 LRA, 120 VAC, 100,000 cycles, 105°C ambient              125 VA, 120 VAC, pilot duty, 100,000 cycles              1/10 hp, 120 VAC, 50,000 cycles              5 A, 125 VAC, general use, 30,000 cycles, 70°C ambient              125 VA, 125 VAC, pilot duty, 100,000 cycles, 105°C</p>

UL325, UL508, UL60950 (File No. E41643) / CSA C22.2 No. 14 (File No. LR34815)

Model	Coil Rating	Contact ratings for AgSnIn
G5LE	3 to 48 VDC	<p><b>N.O. Contacts</b></p> <p>10 A, 250 VAC, general use            8 A, resistive, 30 VDC            1/3 hp, 120 VAC            TV - 5, 120 VAC            1/2 hp, 125 VAC, 100,000 cycles            200W-T (1.6 A), 125 VAC, Tungsten, 100,000 cycles            125 VA, 125 VAC, pilot duty, 100,000 cycles, 105°C            13 A, 120 VAC, resistive, 100,000 cycles, 87°C</p> <p><b>N.C. Contacts</b></p> <p>10 A, 250 VAC, general use            8 A, resistive, 30 VDC            1/8 hp, 120 VAC            12 A, 120 VAC, resistive load, 30,000 cycles            125 VA, 125 VAC, pilot duty, 100,000 cycles, 105°C</p>

TÜV (VDE File No. R9151267)

Model	Coil Rating	Contact rating
G5LE	3, 5, 6, 9, 12, 24 VDC	1.2 A, 250 VAC ( $\cos\phi = 0.4$ ) 2.5 A, 250 VAC (resistive load) 5 A, 30 VDC (resistive load)
		2.5 A, 250 VAC ( $\cos\phi = 0.4$ ) 5 A, 250 VAC (resistive load) 8 A, 30 VDC (resistive load)