

# 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.



## Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G5LE-1-DC12).

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

### 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>  
 ACD: AgCdO  
 ASI: AgSnIn

**5. Insulation Class**

None: Class B insulation  
 CF: Class F insulation

# Specifications

## ■ COIL DATA

Rated voltage	3 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC	48 VDC
Rated current	136.4 mA	79.4 mA	66.7 mA	45 mA	33.3 mA	16.7 mA	8.33 mA
Coil resistance	22.5 Ω	63 Ω	90 Ω	200 Ω	360 Ω	1,440 Ω	5,760 Ω
Must operate voltage	75% of rated voltage (max.)						
Must release voltage	10% of rated voltage (min.)						
Max. voltage	130% of rated voltage at 70°C (158°F), 170% of rated voltage at 23°C (73°F)						
Power consumption	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

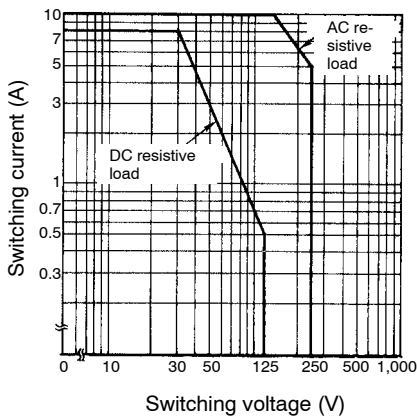
Load	Resistive load (cosφ = 1)	
Rated load	10 A at 120 VAC; 8 A at 30 VDC	
Rated carry current	10 A	
Max. switching voltage	250 VAC, 125 VDC	
Max. switching current	AC	10 A
	DC	8 A
Max. switching capacity	1,200 VA, 240 W	
Min. permissible load	100 mA at 5 VDC	

## ■ CHARACTERISTICS

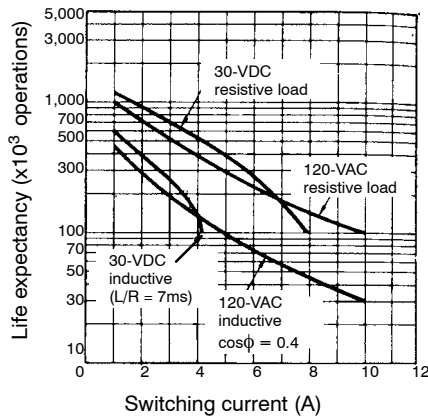
Contact resistance	100 mΩ max.	
Operate time	10 ms max.	
Release time	5 ms max.	
Bounce time	Operate	Approx. 0.6 ms
	Release	Approx. 7.2 ms
Max. switching frequency	Mechanical	18,000 operations/hr
	Electrical	1,800 operations/hr (under rated load)
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric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

■ CHARACTERISTIC DATA

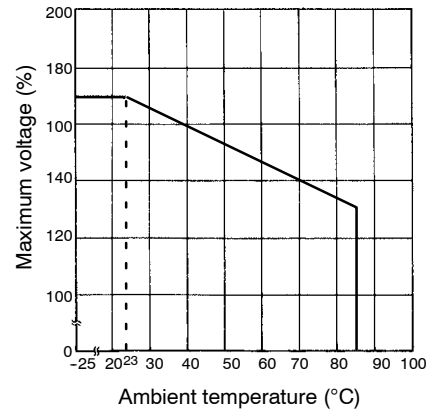
Max. Switching Capacity G5LE



Life Expectancy G5LE



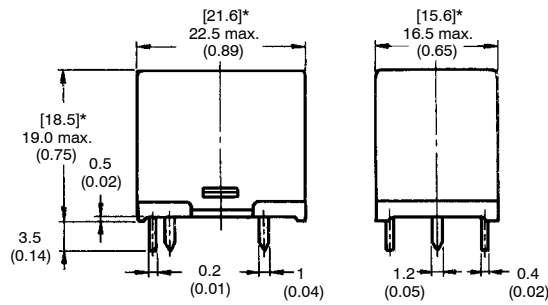
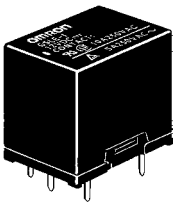
Ambient Temperature vs. Maximum Voltage



Dimensions

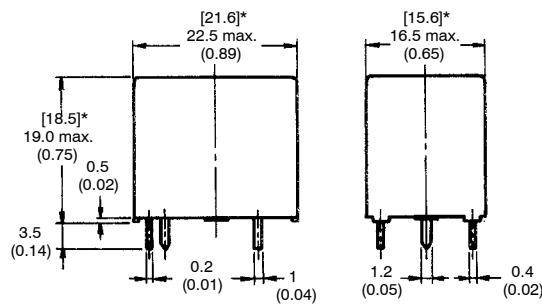
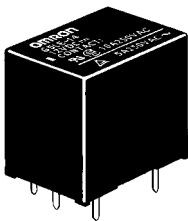
Unit: mm (inch)

■ G5LE-1(A)



\*Average value

■ G5LE-1(A)4

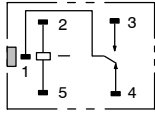


\*Average value

■ STANDARD

Terminal Arrangement/  
Internal Connections  
(Bottom View)

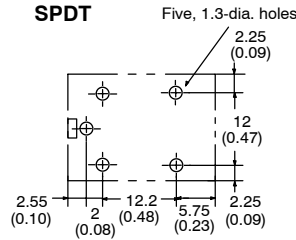
SPDT



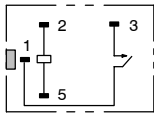
Mounting Holes  
(Bottom View)

Tolerance: ±0.1 mm

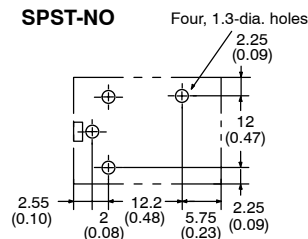
SPDT



SPST-NO



SPST-NO



Note: Orientation marks are indicated as follows:

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

Part number	Coil rating	Contact ratings for AgSnO <sub>2</sub> & AgCdO
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 FLA, 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)**

Part number	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            TV5, 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)**

Part number	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)

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters into inches, divide by 25.4



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