

## 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
- Reverse terminal configuration with NO and NC contact forms are available
- UL class-B insulation certified
- 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	Part number		
		Contact material		
		AgSnO <sub>2</sub>	AgCdO	AgSnIn
Flux protection	SPDT	<b>G5LE-1</b>	<b>G5LE-1-ACD</b>	<b>G5LE-1-ASI</b>
	SPST-NO	<b>G5LE-1A</b>	<b>G5LE-1A-ACD</b>	<b>G5LE-1A-ASI</b>
Plastic-sealed	SPDT	<b>G5LE-14</b>	<b>G5LE-14-ACD</b>	<b>G5LE-14-ASI</b>
	SPST-NO	<b>G5LE-1A4</b>	<b>G5LE-1A4-ACD</b>	<b>G5LE-1A4-ASI</b>

#### MODEL NUMBER LEGEND

G5LE-□ □ □ - □ - □ - □  
 1 2 3 4 5 6

**1. Number of Poles**  
 1: 1 pole

**2. Contact Form**  
 None: SPDT  
 A: SPST-NO

**3. Sealing**  
 None: Flux-protection  
 4: Plastic-sealed

**4. Pre-soldered Terminal Configuration**  
 None: Standard PCB terminal  
 R: Reverse PCB terminal

**5. Contact Material**  
 None: AgSnO<sub>2</sub>  
 ACD: AgCdO  
 ASI: AgSnIn

**6. Approved Standards**  
 None: UL, CSA, TÜV  
 UL Class B 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. 360mW coil is available. Contact OMRON for details.

## ■ CONTACT DATA

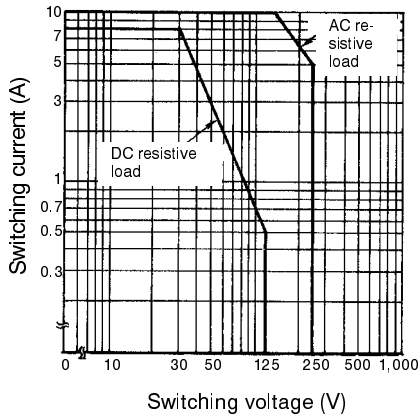
Load	Resistive load ( $\cos\phi = 1$ )	
Rated load	10 A at 120 VAC; 8 A at 30 VDC	
Rated carry current	10 A	
Max. switching voltage	250 VAC, 125 VDC	
Max. switching current	AC	10 A
	DC	8 A
Max. switching capacity	1,200 VA, 240 W	
Min. permissible load	100 mA at 5 VDC	

## ■ CHARACTERISTICS

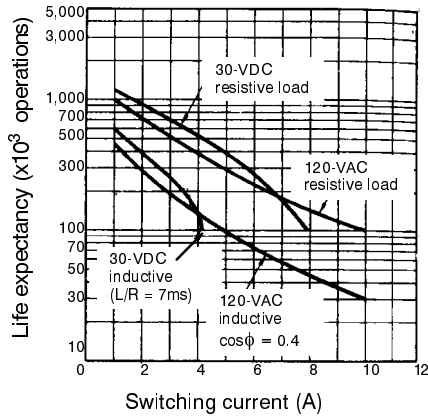
Contact resistance	100 mΩ max.	
Operate time	10 ms max.	
Release time	5 ms max.	
Bounce time	Operate	Approx. 0.6 ms
	Release	Approx. 7.2 ms
Max. switching frequency	Mechanical	18,000 operations/hr
	Electrical	1,800 operations/hr (under rated load)
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric 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	-25°C to 85°C (-13°F to 185°F)
Ambient humidity		35% to 85%
Weight	Approx. 12 g (0.42 oz)	

■ CHARACTERISTIC DATA

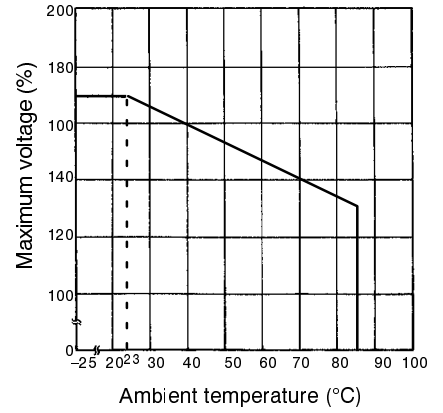
Max. Switching Capacity G5LE



Life Expectancy G5LE



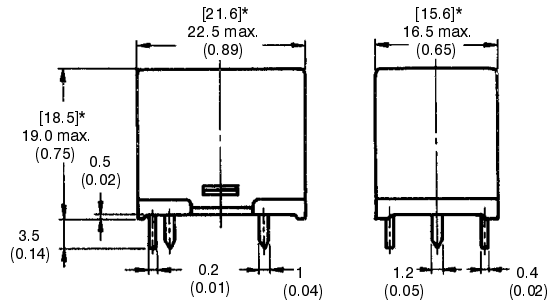
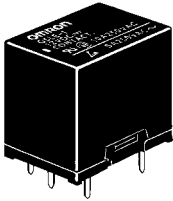
Ambient Temperature vs. Maximum Voltage



Dimensions

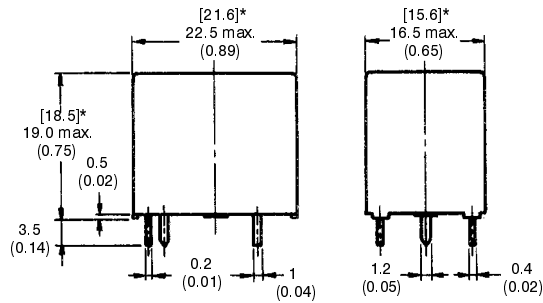
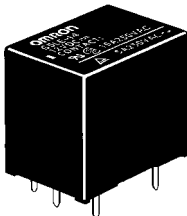
Unit: mm (inch)

■ G5LE-1



\*Average value

■ G5LE-14

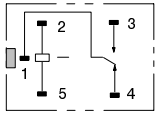


\*Average value

■ STANDARD

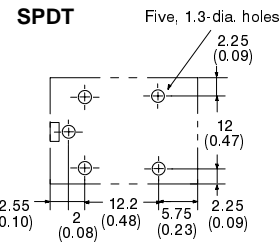
Terminal Arrangement/  
Internal Connections  
(Bottom View)

SPDT



Mounting Holes  
(Bottom View)

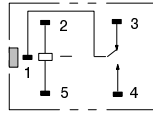
Tolerance: ±0.1 mm



■ REVERSE

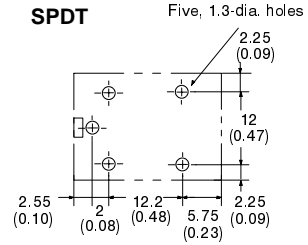
Terminal Arrangement/  
Internal Connections  
(Bottom View)

SPDT

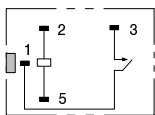


Mounting Holes  
(Bottom View)

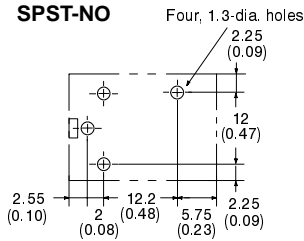
Tolerance: ±0.1 mm



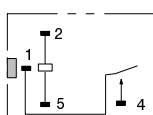
SPST-NO



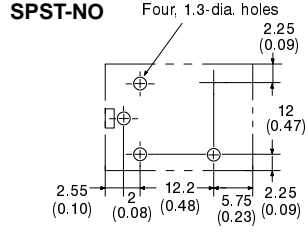
SPST-NO



SPST-NO



SPST-NO



Note: Orientation marks are indicated as follows:

■ APPROVALS

UL325, UL508, UL1409, UL1950 (File No. E41643)

Part number	Coil rating	Contact rating
G5LE	3 to 48 VDC	5 A, 250 VAC (general use) 5 A, 30 VDC (resistive load) 125 VA, 120 VAC (P.D 100,000 cycles) 5 A, 125 VAC (G.P), 30K, 70°C (158°F) NO: 1/8 hp, 120 VAC (50,000 cycles) 4 FLA, 4 LRA, 120 VAC (100,000 cycles) 1/2 s, ON:OFF Ambient temperature: 105°C (221°F) 5 FLA, 30 LRA, 120 VAC Mechanical life: 100,000 cycles TV-3, 120 VAC NC: 1/10 hp, 120 VAC (50,000 cycles) 2 FLA, 4 LRA, 120 VAC (100,000 cycles) 1/2 s, ON:OFF Ambient temperature: 105°C (221°F)
		10 A, 250 VAC (general use) 8 A, 30 VDC (resistive load) NO: 1/6 hp, 120 VAC (50,000 cycles) 1/3 hp, 125 VAC, 30K, 70°C (158°F) NC: 1/8 hp, 120 VAC (50,000 cycles)

Note: Only part numbers with the suffix "AS1" are TV-5 approved.

## CSA C22.2 NO. 14 (File No. LR34815)

Part number	Coil rating	Contact rating
G5LE	3 to 48 VDC	5 A, 250 VAC (general use) 5 A, 30 VDC (resistive load) 125 VA, 120 VAC (P.D 100,000 cycles) 5 A, 125 VAC (G. P), 30K, 70°C (158°F) NO: 1/8 hp, 120 VAC (50,000 cycles) TV-3 NC: 1/10 hp, 120 VAC (50,000 cycles)
		10 A, 250 VAC (general use) 8 A, 30 VDC (resistive load) 6 A, 277 VAC (general use), 100K NO: 1/6 hp, 120 VAC (50,000 cycles) 1/3 hp, 125 VAC, 70°C (158°F) 30K NC: 1/10 hp, 120 VAC (50,000 cycles)

Note: Only part numbers with the suffix "AS1" are TV-5 approved.

## 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)

**NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

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Specifications subject to change without notice.

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