

A Cubic, Single-pole 10-A Power Relay

- High Capacity (-E) and 0.8mm Contact Gap (-G) versions
- Subminiature "sugar cube" relay with universal footprint.
- Conforms to EN 61810-1. UL recognized/ CSA certified.
- UL class-F coil insulation model available (UL class-B coil insulation for standard model).
- Withstands impulse of up to 4,500 V.
- 400-mW and 360-mW coil power types available.
- RoHS Compliant





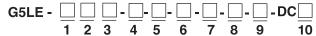
Ordering Information

		Contact material			
		AgSnO ₂	AgSnO ₂ AgSnIn		
Enclosure ratings	Contact form/Style	Standard	Standard	High Capacity	0.8mm Contact Gap
Flux protection	SPDT	G5LE-1 G5LE-1-CF	G5LE-1-ASI G5LE-1-ASI-CF	G5LE-1-E	G5LE-1-G
	SPST-NO	G5LE-1A G5LE-1A-CF	G5LE-1A-ASI G5LE-1A-ASI-CF	G5LE-1A-E	G5LE-1A-G
Fully sealed	SPDT	G5LE-14 G5LE-14-CF	G5LE-14-ASI G5LE-14-ASI-CF		
	SPST-NO	G5LE-1A4 G5LE-1A4-CF	G5LE-1A4-ASI G5LE-1A4-ASI-CF		

Note: When ordering, add the rated coil voltage to the model number. Example: G5LE-1 DC12

Rated coil voltage

Model Number Legend



1. Number of Poles

1: 1 pole

2. Contact Form

None: SPDT A: SPST-NO

3. Enclosure Ratings

None: Flux protection

4: Fully sealed

(Not applicable with -E and -G versions)

4. Contact Material

None: AgSnO₂ (AgSnIn for -E and -G versions)

ASI: AgSnIn

5. Insulation System

None: Class B (Class F for -E and -G versions)

CF: Class F (UL and CSA only)

6. Coil Power Consumption/Coil Characteristic

None: Approx. 400 mW (Approx. 700mW for -G versions) 36: Approx. 360 mW (Not applicable for -G versions)

7. Approved Standards

G: 0.8mm contact gap typeE: High capacity type

8. Approved Standards

None: UL, CSA, and VDE

9. Packaging

None: Standard polystyrene tray SP: Anti-static tube packaging

10.Rated Coil Voltage

5, 9, 12, 24, 48 VDC

Specifications

■ Coil Ratings

700-mW Type (G5LE-G)

Rated voltage	9 VDC	12 VDC	20 VDC	48 VDC
Rated current	77.8mA	58.3mA	35.0mA	29.2mA
Coil resistance	115.7 Ω	205.7 Ω	571.4 Ω	822.9 Ω
Must operate voltage	75% max. of rated voltage (max.)			
Must release voltage	10% min. 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 ±10%.

400-mW Type

Rated voltage	5 VDC	9 VDC	12 VDC	24 VDC	48 VDC
Rated current	79.4 mA	45 mA	33.3 mA	16.7 mA	8.33 mA
Coil resistance	63 Ω	200 Ω	360 Ω	1,440 Ω	5,760 Ω
Must operate voltage	75% max. of 1	75% max. of rated voltage (max.)			
Must release voltage	10% min. of ra	10% min. of rated voltage (min.)			
Max. voltage	130% of rated	130% of rated voltage at 85°C, 170% of rated voltage at 23°C			
Power consumption	Approx. 400 r	Approx. 400 mW			

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

360-mW Type

Rated voltage	5 VDC	9 VDC	12 VDC	24 VDC	48 VDC	
Rated current	72 mA	40 mA	30 mA	15 mA	7.5 mA	
Coil resistance	70 Ω	225 Ω	400 Ω	1,600 Ω	6,400 Ω	
Must operate voltage	75% max. of	75% max. of rated voltage (max.)				
Must release voltage	10% min. of r	10% min. of rated voltage (min.)				
Max. voltage	130% of rate	130% of rated voltage at 85°C, 170% of rated voltage at 23°C				
Power consumption	Approx. 360	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

	Standard	G5LE-G	G5LE-E
Load	Resistive load (cos		
Rated load	10 A at 120 VAC; 8 A at 30 VDC 10A at 240VAC (12 and 24 VDC coil)	10A at 35VDC	16A at 250VAC
Contact Material	AgSnO ₂ (AgSnIn optional)	AgSnIn	AgSnIn
Rated carry current	10 A	10A	16A
Max. switching voltage	250 VAC, 125 VDC (30 VDC when UL/CSA standard is applied)	35VDC	250VAC
Max. switching current	AC: 10 A; DC: 8 A	DC: 10A	AC: 16A
Max. switching power	1,200 VA, 240 W	350W	4,000VA
Minimum Permissible Load (See note)	100 m	A at 5 VDC	•

Note: Reference value - P level: λ_{60} = 0.1 x 10⁻⁶ operations

■ Characteristics

Contact resistance		100 m Ω max.			
Operate time		10 ms max.			
Release time		5 ms max.			
Bounce Time		Operate: Approx. 0.6ms			
		Release: Approx. 7.2ms			
Max. switching fre	quency	Mechanical: 18,000 operations/hr			
		Electrical: 1,800 operations/hr at rated load			
Insulation resistan	се	100 MΩ min. (at 500 VDC)			
Dielectric strength		2,000 VAC, 50/60 Hz for 1 min between coil and contacts 750 VAC, 50/60 Hz for 1 min between contacts of same polarity 1,500 VAC (for suffix -G) 50/60Hz for 1 min between contacts of same polarity			
Impulse withstand	voltage	4,500 V (1.2 x 50 μs) between coil and contacts			
Insulation Distance Creepage (Typ) Clearance (Typ)		3.3 mm			
		2.7 mm			
Tracking Resistant	ce (CTI)	250 V			
Vibration resistant	e	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 ²			
		Malfunction: 100 m/s ²			
Endurance		Mechanical: 10,000,000 operations min. (at 18,000 operations/hr)			
		Electrical: 100,000 operations min. (at 1,800 operations/hr) for standard type			
		36,000 operations min. (10A at 250VAC)			
		100,000 operations min. (at 1,800 operations/hr), 12A 250 VAC) - applicable for			
		G5LE-1-E,NO contact only			
Ambient temperature		Operating: –25°C to 85°C (with no icing)			
Ambient humidity		Operating: 5% to 85%			
Weight		Approx. 12 g			

■ Approved Standards

UL Recognized (File No. E41643) CSA Certified (File No. LR34815)

Model	Coil rating	Contact rating
G5LE	3 to 48 VDC	10 A, 250 VAC (general use), 6,000 cycles, 40°C (excluding -G type)
	(Standard)	10 A, 125 VAC (general use), 100,000 cycles, 40°C (excluding -É, -G types)
		8 A, 30 VDC (resistive load), 6,000 cycles, 40°C (excluding -E, -G types)
	5 to 24 VDC	125 VA, 125 VAC, pilot duty, 100,000 cycles, 105°C (excluding -G type)
	(-E versions)	NO:
	(13 A, 120 VAC, resistive, 100,000 cycles, 85°C (AgSnO ₂ & -E types, only)
	0.4- 04.1/D0	1/2 hp, 125 VAC, 100,000 cycles, 40°C (excluding -G type)
	9 to 24 VDC	1/3 hp, 125 VAC, 30,000 cycles, 70°C (AgSnO ₂ type only, excluding -E, -G types)
	(-G versions)	400W-T (3.3A), 120 VAC, tungsten, 100,000 cycles (AgSnO ₂ type only, excluding -E, -G types)
		TV-5, 120 VAC, 40°C (-ASI type only, excluding -E, -G types)
		12 A, 250 VAC, general use, 100,000 cycles, 1s=on, 1s=off, 105°C (-E type only)
		TV-8,120 VAC, 25,000 cycles, 40°C (-E type only)
		10 A, 35 VDC, resistive, 100,000 cycles, 1s=on, 1s=off, 40°C (-G type only)
		NC:
		12 A, 250 VAC, general use, 30,000 cycles, 1s=on, 9s=off, 40°C (-E type only)
		10 A, 35 VDC, resistive, 50,000 cycles, 5s=on, 5s=off, 40°C (-G type only)
		1/8 hp, 120 VAC, 50,00 cycles, 40°C (AgSnO ₂ type only, excluding -E, -G types)

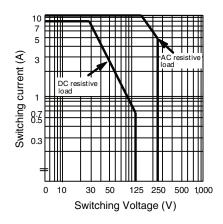
EN 61810-1, EN 60255, IEC (VDE TUV Reg No. R9151267, VDE Reg No. 6850UG)

Model	Coil rating	Contact rating
	_, _, _, _, _,	10A, 250VAC (resistive load, 50,000 cycles at 85°C) 5A, 30VDC 2.5 A, 250 VAC (cosφ = 0.4)

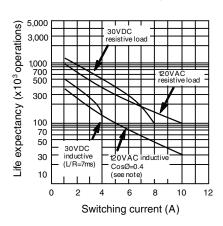
Engineering Data

For standard type

Max. Switching Capacity

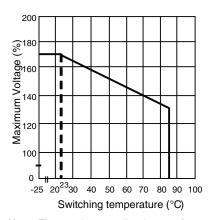


Life Expectancy



Note: Same curve as for 250-VAC resistive load

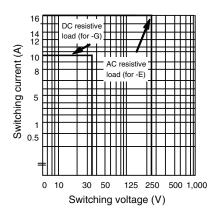
Ambient Temp. Vs. Max. Voltage



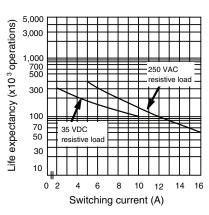
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

For suffix -E and -G

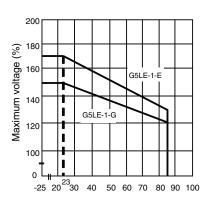
Max. Switching Capacity



Life Expectancy



Ambient Temp. Vs. Max. Voltage



Switching temperature (°C)

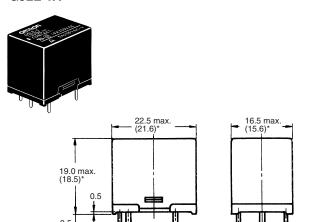
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

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

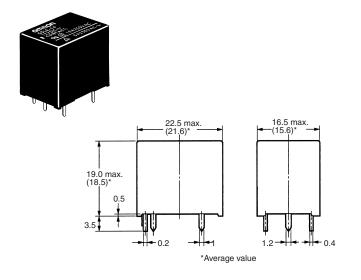
2. Orientation marks are indicated as follows:

G5LE-1 G5LE-1A



*Average value

G5LE-14 G5LE-1A4



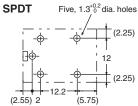
Terminal Arrangement/Internal Connections (Bottom View)

Mounting Holes (Bottom View)

Tolerance: ±0.1 mm unless specified

SPDT

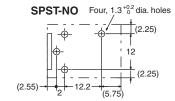




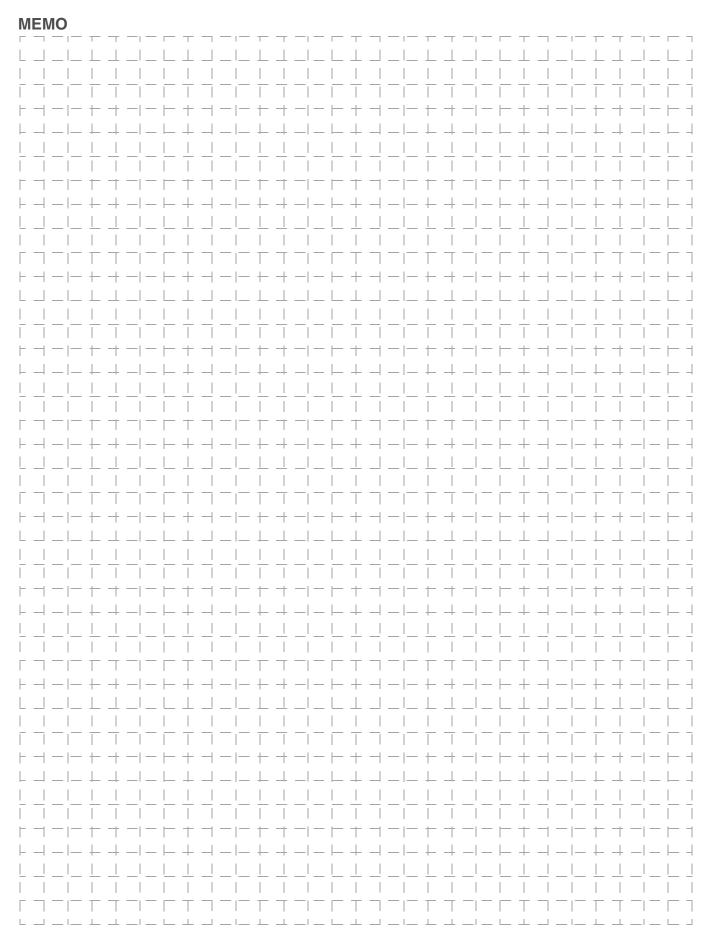
Terminal
Arrangement/Internal
Connections (Bottom View)
Tolerance: ±0.1 mm
unless specified

SPST-NO









Omron Electronic Components, LLC

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 RoHS Compliance. Where indicated, our products currently comply, to the best of our knowledge as of the date of this publication, with the requirements of the European Union's Directive on the Restriction of certain Hazardous Substances ("RoHS"), although the requirements of RoHS do not take effect until July 2006. These requirements may be subject to change. Please consult until July 2006. These requirements may be subject to change. Please consult our website for current information.

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Specifications subject to change without notice

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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06/09

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