

A Cubic, Single-pole 10-A Power Relay

- Subminiature “sugar cube” relay with universal terminal footprint.
- Conforms to VDE0435 (VDE approval: B250 Insulation grade), UL508, CSA22.2.
- UL class-F coil insulation model available (UL class-B coil insulation for standard model).
- High switching capacity: 10 A.
- Two types of seal available; flux protection and plastic-sealed.
- Withstands impulse of up to 4,500 V.
- 400-mW and 360-mW coil power consumption types available.



Ordering Information

Seal	Contact form	Contact material		
		AgSnO ₂	AgSnIn	AgCdO
Flux protection	SPDT	G5LE-1 G5LE-1-VD G5LE-1-CF	G5LE-1-ASI G5LE-1-ASI-VD G5LE-1-ASI-CF	G5LE-1-ACD G5LE-1-ACD-VD G5LE-1-ACD-CF
	SPST-NO	G5LE-1A G5LE-1A-VD G5LE-1A-CF	G5LE-1A-ASI G5LE-1A-ASI-VD G5LE-1A-ASI-CF	G5LE-1A-ACD G5LE-1A-ACD-VD G5LE-1A-ACD-CF
Plastic-sealed	SPDT	G5LE-14 G5LE-14-VD G5LE-14-CF	G5LE-14-ASI G5LE-14-ASI-VD G5LE-14-ASI-CF	G5LE-14-ACD G5LE-14-ACD-VD G5LE-14-ACD-CF
	SPST-NO	G5LE-1A4 G5LE-1A4-VD G5LE-1A4-CF	G5LE-1A4-ASI G5LE-1A4-ASI-VD G5LE-1A4-ASI-CF	G5LE-1A4-ACD G5LE-1A4-ACD-VD G5LE-1A4-ACD-CF

Note: When ordering, add the rated coil voltage to the model number.
Example: G5LE-1 12 VDC

Rated coil voltage

Model Number Legend

G5LE - - - - -

1 2 3 4 5 6 7 8

1. Number of Poles

1: 1 pole

2. Contact Form

None: SPDT
A: SPST-NO

3. Sealing

None: Flux protection
4: Plastic-sealed

4. Terminal Arrangement with Pre-Soldered

None: Standard

5. Contact Material

None: AgSnO₂
ASI: AgSnIn
ACD: AgCdO

6. Insulation System

None: Class B
CF: Class F (UL and CSA only)

7. Coil Power Consumption/Coil Characteristic

None: Approx. 400 mW
36: Approx. 360 mW

8. Approved Standards

None: UL, CSA, TÜV
VD: UL, CSA, TÜV and VDE
(Not applicable with “-CF.”)

Specifications

■ Coil Ratings

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% of rated voltage (max.)				
Must release voltage	10% of rated voltage (min.)				
Max. voltage	130% of rated voltage at 70°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

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% of rated voltage (max.)				
Must release voltage	10% of rated voltage (min.)				
Max. voltage	130% of rated voltage at 70°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

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 (30 VDC when UL/CSA standard is applied)
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 m Ω 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 M Ω 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 ² (approx. 100G) Malfunction: 100 m/s ² (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
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 12 g

■ Approved Standards

UL114, UL478, UL325, UL508, UL1409, UL1950 (File No. E41643)/CSA C22.2 No. 14 (File No. LR34815)

Model	Coil rating	Contact rating
G5LE	3 to 48 VDC	12 A, 120 VAC (resistive load 30,000 cycles) 10 A, 250 VAC (general use) 8 A, 30 VDC (resistive load) 6 A, 277 VAC (general use) NO: 1/6 hp, 120 VAC (50,000 cycles) 1/3 hp, 125 VAC, 70°C 30K with Class 130B system 65°C 30K with Class 105 Coil insulation system NC: 1/8 hp, 120 VAC (50,000 cycles) 1/10 hp, 120 VAC (50,000 cycles)

TÜV DIN VDE 0435, IEC 255 (File No. R9151267)

Model	Coil rating	Contact rating
G5LE	Approx. 400 mW 3, 5, 6, 9, 12, 24 VDC Approx. 360 mW 5, 6, 9, 12, 24 VDC	2.5 A, 250 VAC (cosφ = 0.4) 5 A, 250 VAC (resistive load) 8 A, 30 VDC (resistive load)

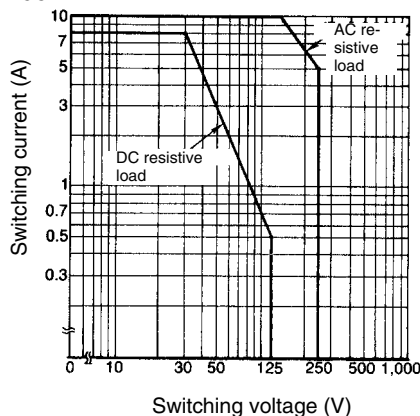
VDE DIN VDE 0435, IEC 255 (File No. 6850ÜG)

Model	Coil rating	Contact rating
G5LE	Approx. 400 mW 3, 5, 6, 9, 12, 24, 48 VDC Approx. 360 mW 3, 5, 6, 9, 12, 24, 48 VDC	5 A, 250 VAC (resistive load, 50,000 cycles) at 85°C.

Engineering Data

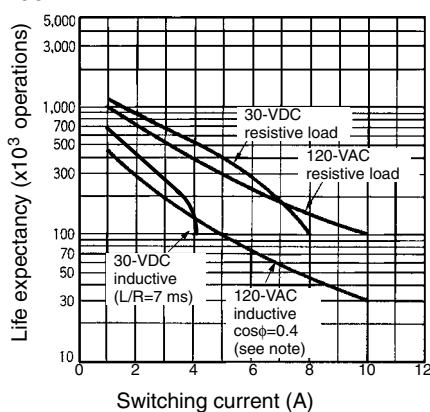
Max. Switching Capacity

G5LE



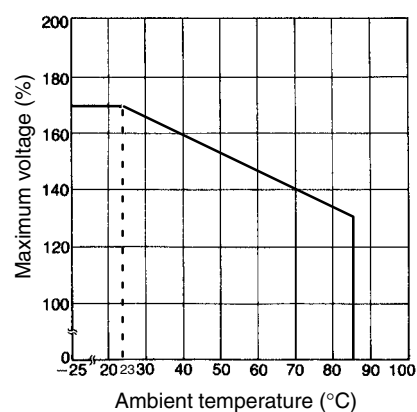
Life Expectancy

G5LE



Note: Same curve as for 250-VAC resistive load

Ambient Temperature vs. Maximum Voltage



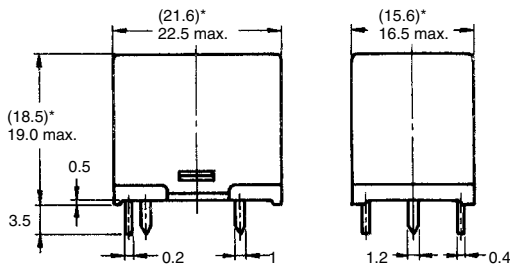
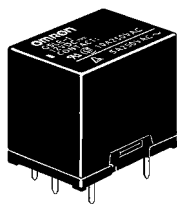
Dimensions

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

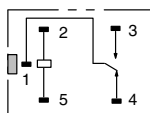
2. Orientation marks are indicated as follows:  

■ SPDT Types

G5LE-1

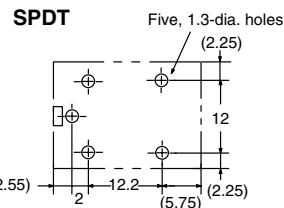


Terminal Arrangement/Internal Connections (Bottom View)
SPDT

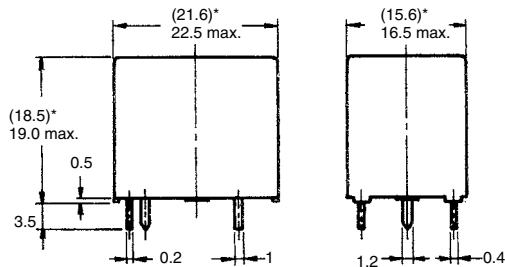
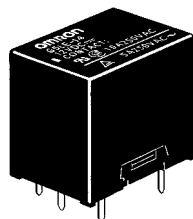


*Average value

Mounting Holes (Bottom View)
Tolerance: ± 0.1 mm

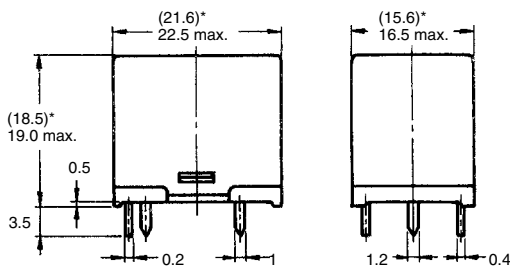
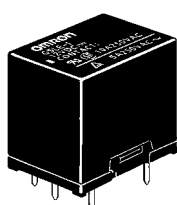


G5LE-14

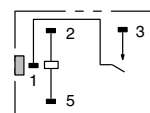


■ SPST Types

G5LE-1A

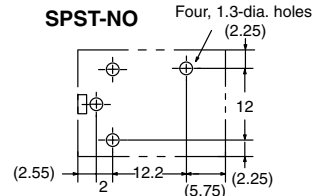


Terminal Arrangement/Internal Connections (Bottom View)
SPST-NO

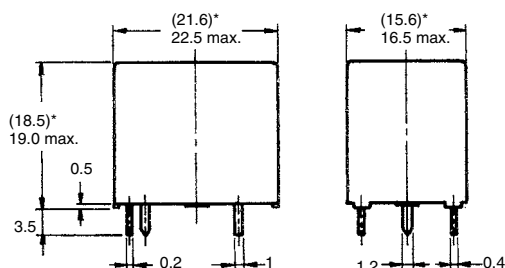
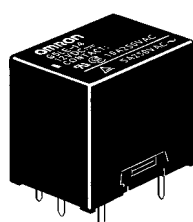


*Average value

Mounting Holes (Bottom View)
Tolerance: ± 0.1 mm



G5LE-1A4



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. K100-E1-2 In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation

C&C Components Division H.Q.
Relay Division
28th Fl., Crystal Tower Bldg.,
1-2-27, Shiromi, Chuo-ku,
Osaka 540-6028 Japan
Phone: (81)6-6949-6125 Fax: (81)6-6949-6134

Printed in Japan
0199-1M (0397) Ⓐ