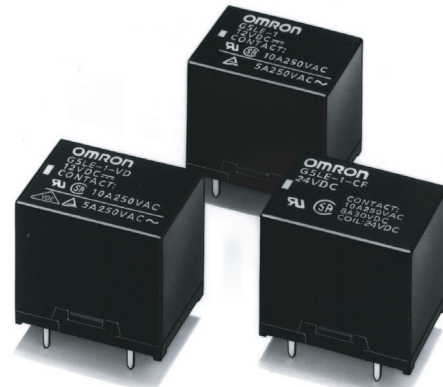


A Cubic, Single-pole 10-A Power Relay

- Subminiature “sugar cube” relay with universal terminal footprint.
- Conforms to VDE0435 (VDE approval: B250 Insulation grade), UL508, CSA22.2.
- Tracking resistance: CTI>250 (-VD type).
- UL class-F coil insulation model available (UL class-B coil insulation for standard model).
- High switching power: 10 A.
- Two types of seal available; flux protection and fully sealed.
- Withstands impulse of up to 4,500 V.
- 400-mW and 360-mW coil power consumption types available.
- Pre-soldered terminals.



RoHS Compliant Refer to pages 16 to 17 for details.

Ordering Information

| Enclosure ratings | Contact form | Contact material | |
|-------------------|--------------|--|--|
| | | AgSnO ₂ | AgSnIn |
| Flux protection | SPDT | G5LE-1 G5LE-1-VD G5LE-1-CF | G5LE-1-ASI G5LE-1-ASI-VD G5LE-1-ASI-CF |
| | SPST-NO | G5LE-1A G5LE-1A-VD G5LE-1A-CF | G5LE-1A-ASI G5LE-1A-ASI-VD G5LE-1A-ASI-CF |
| Fully sealed | SPDT | G5LE-14 G5LE-14-VD G5LE-14-CF | G5LE-14-ASI G5LE-14-ASI-VD G5LE-14-ASI-CF |
| | SPST-NO | G5LE-1A4 G5LE-1A4-VD G5LE-1A4-CF | G5LE-1A4-ASI G5LE-1A4-ASI-VD G5LE-1A4-ASI-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 - - - - VDC
 1 2 3 4 5 6 7 8

1. Number of Poles

1: 1 pole

2. Contact Form

None: SPDT

A: SPST-NO

3. Enclosure Ratings

None: Flux protection

4: Fully sealed

4. Contact Material

None: AgSnO₂

ASI: AgSnIn

5. Insulation System

None: Class B

CF: Class F (UL and CSA only)

6. Coil Power Consumption/Coil Characteristic

None: Approx. 400 mW

36: Approx. 360 mW

7. Approved Standards

None: UL, CSA, TÜV

VD: UL, CSA, TÜV and VDE

(Not applicable with “-CF”)

8. Rated Coil Voltage

5, 9, 12, 24, 48 VDC

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% max. of rated voltage | | | | |
| Must release voltage | 10% min. of rated voltage | | | | |
| Max. voltage | 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 ±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 rated voltage | | | | |
| Must release voltage | 10% min. of rated voltage | | | | |
| Max. voltage | 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 ±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 power | 1,200 VA, 240 W |
| Failure rate (reference value) | 100 mA at 5 VDC |

Note: P level: $\lambda_{60} = 0.1 \times 10^{-6}$ operations

■ Characteristics

| | |
|---------------------------|--|
| Contact resistance | 100 mΩ max. |
| Operate time | 10 ms max. |
| Release time | 5 ms max. |
| Max. switching frequency | Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr at rated load |
| Insulation resistance | 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 |
| Impulse withstand voltage | 4,500 V (1.2 50 μs) between coil and contacts |
| Vibration resistance | 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) |
| Ambient temperature | Operating: -25°C to 85°C (with no icing) |
| Ambient humidity | Operating: 5% to 85% |
| Weight | Approx. 12 g |

■ Approved Standards

UL508, UL114, UL478, UL325, UL873, UL1409, UL1950 (File No. E41643)/CSA C22.2 No. 14, No. 1 (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) 10 A, 125 VAC (general use 100,000 cycles) 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 TV-3, 120 VAC TV-5, 120 VAC (For ASI only) NC: 1/8 hp, 120 VAC (50,000 cycles) 1/10 hp, 120 VAC (50,000 cycles) |

TÜV DIN EN61810-1 (File No. J50030324)

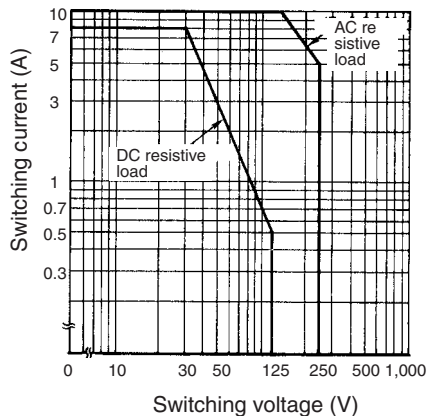
| Model | Coil rating | Contact rating |
|-------|---|--|
| G5LE | Approx. 400 mW 3, 5, 6, 9, 12, 24 VDC Approx. 360 mW 5, 6, 9, 12, 24 VDC | 2.5 A, 250 VAC ($\cos\phi = 0.4$) 5 A, 250 VAC (resistive load) 8 A, 30 VDC (resistive load) |

VDE DIN EN61810-1, DIN EN60255 (File No. 6850ÜG)

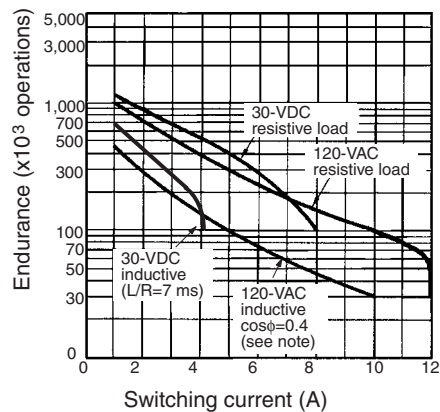
| Model | Coil rating | Contact rating |
|-------|--|--|
| G5LE | Approx. 400 mW 3, 5, 6, 9, 12, 24, 48 VDC Approx. 360 mW 5, 6, 12, 24, 48 VDC | 5 A, 250 VAC (resistive load, 50,000 cycles) at 85°C. |

Engineering Data

Maximum Switching Power
G5LE

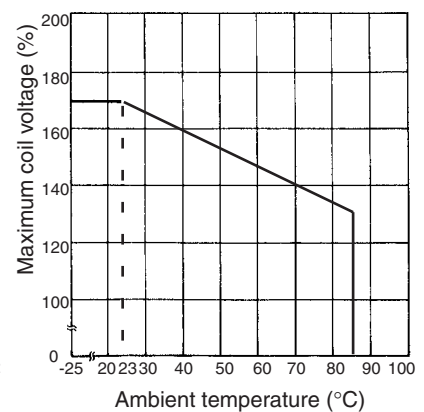


Endurance
G5LE



Note: Same curve as for 250-VAC resistive load



Ambient Temperature vs.
Maximum Coil Voltage



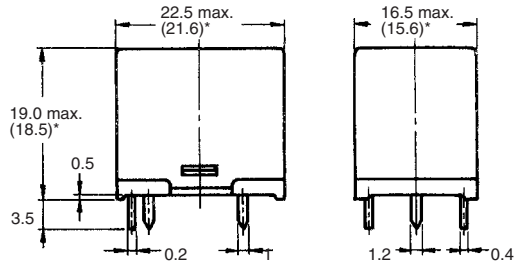
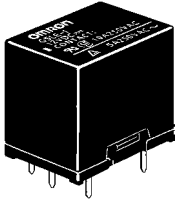
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

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

2. Orientation marks are indicated as follows:  

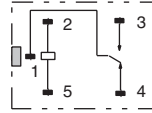
G5LE-1 G5LE-1A



*Average value

Terminal Arrangement/Internal Connections (Bottom View)

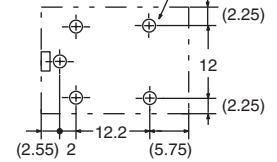
SPDT



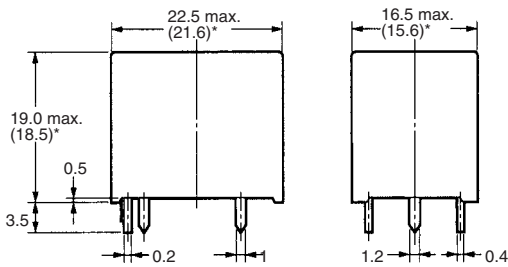
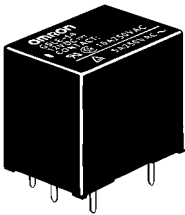
Mounting Holes (Bottom View)

Tolerance: ± 0.1 mm unless specified

SPDT Five, $1.3^{+0.2}$ dia. holes



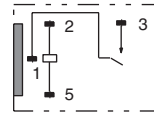
G5LE-14 G5LE-1A4



*Average value

Terminal Arrangement/Internal Connections (Bottom View)

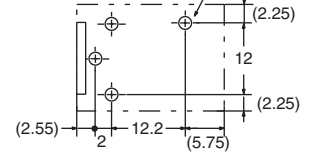
SPST-NO



Mounting Holes (Bottom View)

Tolerance: ± 0.1 mm unless specified

SPST-NO Four, $1.3^{+0.2}$ dia. holes



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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[7-1393144-5](#) [7-1393767-8](#)