

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.



X RCE

Ordering Information

| Enclosure ratings | 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 |
| Fully 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 - VDC
1 2 3 4 5 6 7 8

- | | |
|---|---|
| <ol style="list-style-type: none"> 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 ACD: AgCdO | <ol style="list-style-type: none"> 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 | 130% of rated voltage at 85°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% max. of rated voltage | | | | |
| Must release voltage | 10% min. of rated voltage | | | | |
| Max. voltage | 130% of rated voltage at 85°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 power | 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 at rated load |
| Insulation resistance | 100 M Ω 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 ($1.2 \times 50 \mu\text{s}$) 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 Malfunction: 100 m/s ² |
| 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 (with no icing) Storage: -40°C to 85°C (with no icing) |
| Ambient humidity | Operating: 35% 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 VDE 0435, IEC 255 (File No. R9151267)

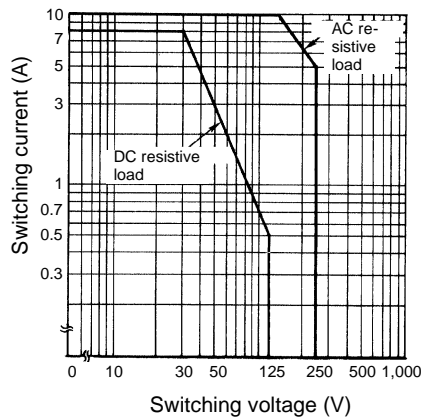
| Model | Coil rating | Contact rating |
|-------|---|--|
| G5LE | Approx. 400 mW 3, 5, 6, 9, 12, 24 VDC Approx. 360 mW 5, 6, 9, 12, 24 VDC | 2.5 A, 250 VAC (cosφ = 0.4) 5 A, 250 VAC (resistive load) 8 A, 30 VDC (resistive load) |

VDE DIN VDE 0435, DIN EN 60255 (File No. 6850ÜG)

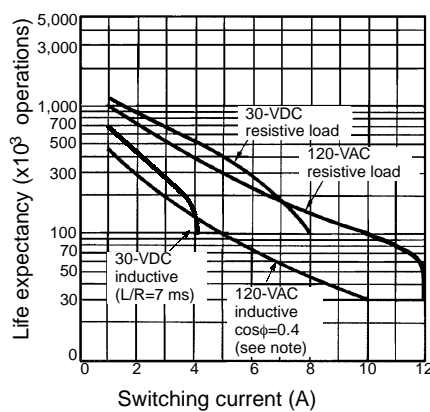
| Model | Coil rating | Contact rating |
|-------|--|---|
| G5LE | Approx. 400 mW 3, 5, 6, 9, 12, 24, 48 VDC Approx. 360 mW 5, 6, 12, 24, 48 VDC | 5 A, 250 VAC (resistive load, 50,000 cycles) at 85°C. |

Engineering Data

Maximum Switching Power
G5LE

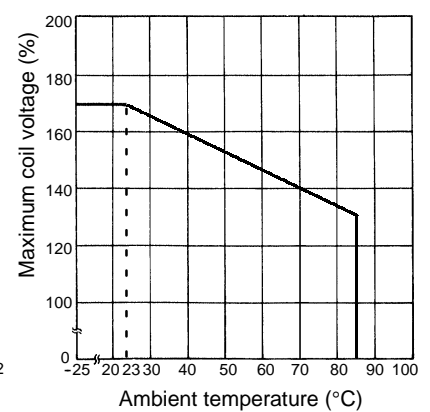


Life Expectancy
G5LE



Note: Same curve as for 250-VAC resistive load

Ambient Temperature vs. Maximum Coil Voltage

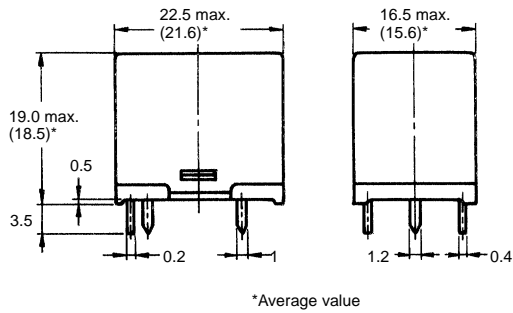
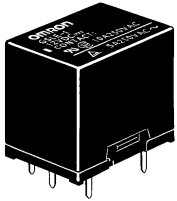


Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

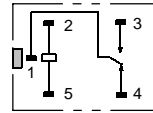
- Note:** 1. All units are in millimeters unless otherwise indicated.
 2. Orientation marks are indicated as follows:

G5LE-1 G5LE-1A



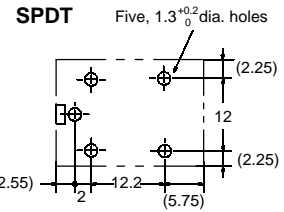
Terminal Arrangement/Internal Connections (Bottom View)

SPDT

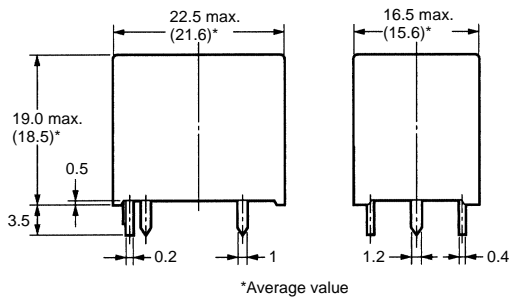
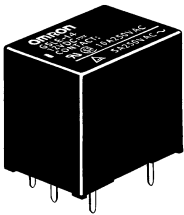


Mounting Holes (Bottom View)

Tolerance: ± 0.1 mm unless specified

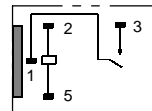


G5LE-14 G5LE-1A4



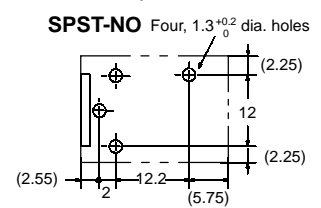
Terminal Arrangement/Internal Connections (Bottom View)

SPST-NO



Mounting Holes (Bottom View)

Tolerance: ± 0.1 mm unless specified



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