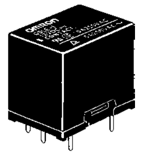
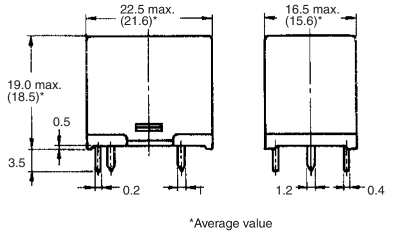
Dimensions

Note: 1. All units are in millimetres unless otherwise indicated.
2. Orientation marks are indicated as follows: ▨ ☐

G5LE-1
G5LE-14
G5LE-1-E
G5LE-1-G

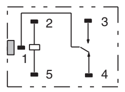




*Average value

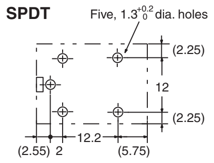
Terminal Arrangement/Internal Connections (Bottom View)

SPDT

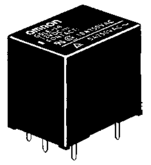


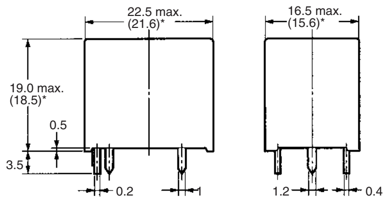
Mounting Holes (Bottom View)
Tolerance: ±0.1 mm unless specified

SPDT



G5LE-1A
G5LE-1A4
G5LE-1A-E
G5LE-1A-G

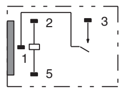




*Average value

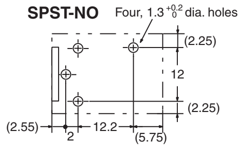
Terminal Arrangement/Internal Connections (Bottom View)

SPST-NO



Mounting Holes (Bottom View)
Tolerance: ±0.1 mm unless specified

SPST-NO



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

A Cubic, Single-pole 10A Power Relay

- ■ Small size and light weight
  - 19.6 x 15.6 x 15.6 mm, 7.5g
- ■ High Insulation
  - Dielectric strength 2,000V
  - Withstand impulse voltage 4,500V
- ■ High heat resistance and tracking performance
  - UL class-F available (-CF model)
  - IEC60335 GWT compliant
  - Tracking resistance CTI>250
- ■ Environmental friendly
- ■ ROHS compliant.

EN61810 Edition 2

Ordering Information

Contact form	Switching capacity	Model number	
		Flux protection	**Fully sealed**
SPDT	**Standard**	G5LA-1	G5LA-14
		G5LA-1-CF	G5LA-14-CF
	High capacity (NC side)	G5LA-1-E	G5LA-14-E
		G5LA-1-E-CF	G5LA-14-E-CF
SPST-NO		G5LA-1A	G5LA-1A4
		G5LA-1A-CF	G5LA-1A4-CF

Note: When ordering, add the rated coil voltage to the model number.
Examples : G5LA-1 12VDC
Rated Coil Voltage

Model Number Legend

G5LA ☐ ☐ ☐ - ☐ - ☐ ☐ VDC
1 2 3 4 5 6

1. **Number of Poles**
   1: 1 pole
2. **Contact Form/Contact Construction**
   None: SPDT
   A: SPST-NO
3. **Sealing/Protective Construction**
   None: Flux protection
   4: Fully sealed
4. **Contact Type**
   None: Standard
   E: High capacity (NC side)
5. **UL Insulation System**
   None: Standard
   CF: Class F
6. **Rated Coil Voltage**

Specifications

■ Coil Ratings

Rated voltage	5 VDC	9 VDC	12 VDC	24 VDC	48 VDC
Rated current	72 mA	40 mA	30 mA	15 mA	10 mA
Coil resistance	69.4 Ω	225 Ω	400 Ω	1600 Ω	4800 Ω 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	360 mW				480mW

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

■ Contact Ratings

Item		Standard model	High capacity (-E) model
Contact material		$AgSnO_2$	
Load		Resistive load (cosϕ=1)	
Rated load	**NO**	10A at 250VAC 10A at 24VDC	
	NO/NC	5A/5A at 125VAC 5A/5A at 250VAC	5A/5A at 24VDC 5A/5A at 24VDC
Rated carry current		10A(NO), 5A(NC)	10A
Max. switching voltage		250VAC, 24VDC	
Max. switching current		10A(NO), 5A(NC)	10A
Max. switching power	**NO**	AC2,500VA, DC240W	
	NO/NC	AC625VA, DC120W	AC1,250VAC, DC120W
Failure rate (reference value)		100 mA at 5 VDC	

Note: P level: $\lambda 60 = 0.1 \times 10^{-6}$/operation

■ 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 (under rated load)
Insulation resistance	1,000MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC. 1mA 50/60Hz for 1 min between coil and contacts 750 VAC 1mA 50/60Hz for 1 min between contacts of same polarity
Vibration resistance	Destruction: 10 to 55Hz, 1.5mm double amplitude Malfunction: 10 to 55Hz, 1.5mm double amplitude
Shock resistance	Destruction: 1,000 m/s^2 (approx. 100G) Malfunction: 100 m/s^2 (approx. 10G)
Endurance	Mechanical: 10,000,000 operations min. Electrical: 100,000 operations typical
Ambient temperature	Operating: -40° to 85° (with no icing) Storage: -40° to 85° (with no icing)
Ambient humidity	Operating: 35% to 85% Storage: 35% to 85%
Weight	Approx. 7.5g

Note: Values in the above table are the initial values.

■ Approved Standards

UL508 (UL File No. E41643)

Model	Coil ratings	Contact ratings
G5LA	5 to 48 VDC	NO: 10A, 277VAC, general use, 100,000 cycles 10A, 277VAC, general use, 85ºC, 50,000 cycles (-CF model) 15A, 125VAC, general use, 50,000 cycles 1/2Hp, 125VAC 1/2Hp, 250VAC 200W tungsten, 125VAC, 100,000 cycles NC: 10A, 125VAC, resistive 10A, 277VAC, general use, 100,000 cycles (-E model)

EN61810-1 (VDE Reg. No. B652)

Model	Coil ratings	Contact ratings
G5LA	5,6,9,12,18,24,48 VDC	NO: 10A, 250VAC, cosϕ=1, 85ºC, 1 sec - flux protection: 50,000 cycles - fully sealed: 10,000 cycles 10A, 250VAC, cosϕ=1, 85ºC, 5 sec 12A, 125VAC, cosϕ=1, 85ºC, 10,000 NC: 10A, 250VAC, cosϕ=1, 85ºC, 25,000 NO/NC: 5A, 250VAC, cosϕ=1, 85ºC - flux protection: 50,000 cycles - fully sealed: 10,000 cycles

GB15092.1 (CQC File No. CQC06001015477)

Model	Coil ratings	Contact ratings
G5LA	5,9,12,24,48 VDC	NO: 10A, 250VAC, resistive, 10,000 cycles 12A, 120VAC, resistive, 10,000 cycles NO/NC: 10A, 250VAC, resistive, 10,000 cycles (-E model) 12A, 250VAC, resistive, 10,000 cycles (-E model)

Specifications

■ Coil Ratings

Rated voltage	5 VDC	9 VDC	12 VDC	24 VDC	48 VDC
Rated current	72 mA	40 mA	30 mA	15 mA	10 mA
Coil resistance	69.4 Ω	225 Ω	400 Ω	1600 Ω	4800 Ω 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	360 mW				480mW

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

■ Contact Ratings

Item		Standard model	High capacity (-E) model
Contact material		$AgSnO_2$	
Load		Resistive load (cosϕ=1)	
Rated load	**NO**	10A at 250VAC 10A at 24VDC	
	NO/NC	5A/5A at 125VAC 5A/5A at 250VAC	5A/5A at 24VDC 5A/5A at 24VDC
Rated carry current		10A(NO), 5A(NC)	10A
Max. switching voltage		250VAC, 24VDC	
Max. switching current		10A(NO), 5A(NC)	10A
Max. switching power	**NO**	AC2,500VA, DC240W	
	NO/NC	AC625VA, DC120W	AC1,250VAC, DC120W
Failure rate (reference value)		100 mA at 5 VDC	

Note: P level: $\lambda60 = 0.1 \times 10^{-6}$/operation

■ 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 (under rated load)
Insulation resistance	1,000MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC. 1mA 50/60Hz for 1 min between coil and contacts 750 VAC 1mA 50/60Hz for 1 min between contacts of same polarity
Vibration resistance	Destruction: 10 to 55Hz, 1.5mm double amplitude Malfunction: 10 to 55Hz, 1.5mm double amplitude
Shock resistance	Destruction: 1,000 m/s^2 (approx. 100G) Malfunction: 100 m/s^2 (approx. 10G)
Endurance	Mechanical: 10,000,000 operations min. Electrical: 100,000 operations typical
Ambient temperature	Operating: -40° to 85° (with no icing) Storage: -40° to 85° (with no icing)
Ambient humidity	Operating: 35% to 85% Storage: 35% to 85%
Weight	Approx. 7.5g

Note: Values in the above table are the initial values.

■ Approved Standards

UL508 (UL File No. E41643)

Model	Coil ratings	Contact ratings
G5LA	5 to 48 VDC	NO: 10A, 277VAC, general use, 100,000 cycles 10A, 277VAC, general use, 85ºC, 50,000 cycles (-CF model) 15A, 125VAC, general use, 50,000 cycles 1/2Hp, 125VAC 1/2Hp, 250VAC 200W tungsten, 125VAC, 100,000 cycles NC: 10A, 125VAC, resistive 10A, 277VAC, general use, 100,000 cycles (-E model)

EN61810-1 (VDE Reg. No. B652)

Model	Coil ratings	Contact ratings
G5LA	5,6,9,12,18,24,48 VDC	NO: 10A, 250VAC, cosϕ=1, 85ºC, 1 sec - flux protection: 50,000 cycles - fully sealed: 10,000 cycles 10A, 250VAC, cosϕ=1, 85ºC, 5 sec 12A, 125VAC, cosϕ=1, 85ºC, 10,000 NC: 10A, 250VAC, cosϕ=1, 85ºC, 25,000 NO/NC: 5A, 250VAC, cosϕ=1, 85ºC - flux protection: 50,000 cycles - fully sealed: 10,000 cycles

GB15092.1 (CQC File No. CQC06001015477)

Model	Coil ratings	Contact ratings
G5LA	5,9,12,24,48 VDC	NO: 10A, 250VAC, resistive, 10,000 cycles 12A, 120VAC, resistive, 10,000 cycles NO/NC: 10A, 250VAC, resistive, 10,000 cycles (-E model) 12A, 250VAC, resistive, 10,000 cycles (-E model)

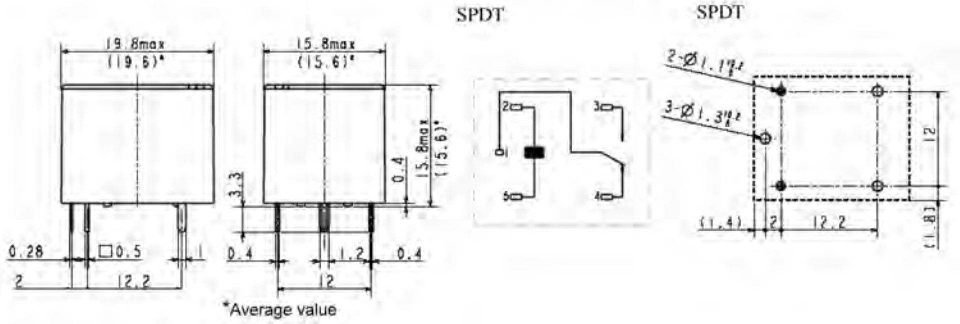
Dimensions

Note: All units are in millimeters unless otherwise indicated.

■ SPDT Models

Terminal Arrangement/Internal Connections (Bottom View)

Mounting Holes (Bottom Views) Tolerance: ±0.1mm Unless specified

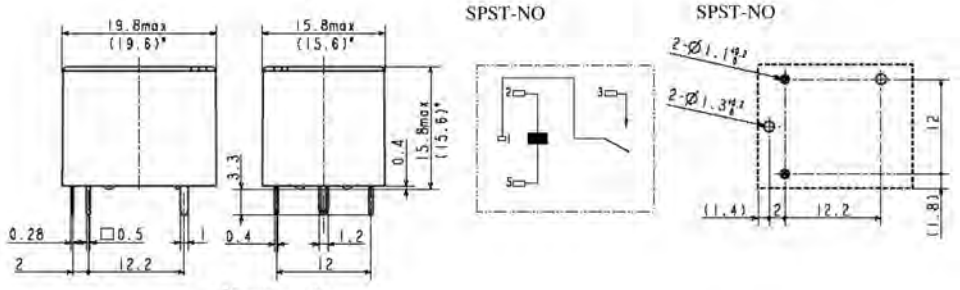


*Average value

■ SPST-NO Models

Terminal Arrangement/Internal Connections (Bottom View)

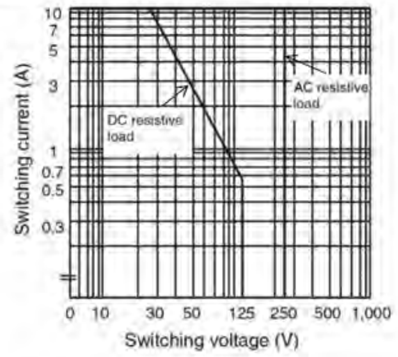
Mounting Holes (Bottom Views) Tolerance: ±0.1mm Unless specified



*Average value

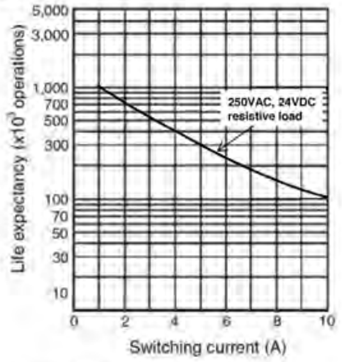
Engineering Data

Max. Switching Power



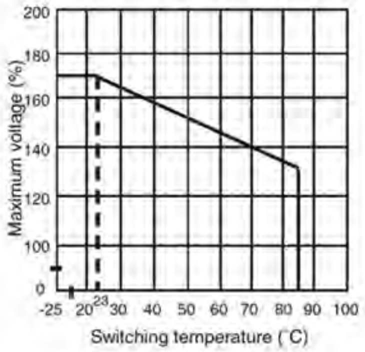
Note: NO contact

Endurance



Note: NO contact, Typical value

Ambient Temp. Vs Max. Voltage



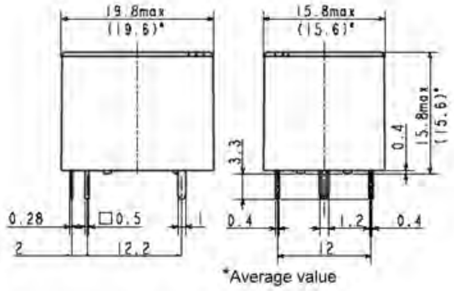
Note: The maximum coil voltage is the maximum value in a varying range of operating power voltages not a continuous voltage

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

Dimensions

Note: All units are in millimeters unless otherwise indicated.

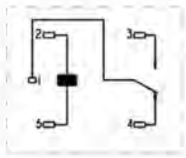
■ SPDT Models



*Average value

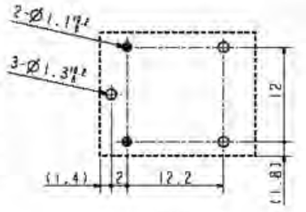
Terminal Arrangement/Internal Connections (Bottom View)

SPDT

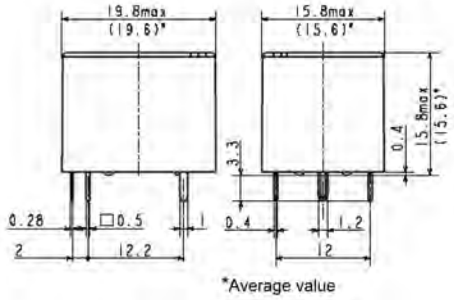


Mounting Holes (Bottom Views) Tolerance: ±0.1mm Unless specified

SPDT



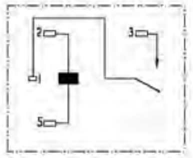
■ SPST-NO Models



*Average value

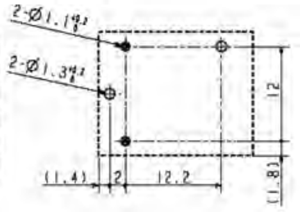
Terminal Arrangement/Internal Connections (Bottom View)

SPST-NO



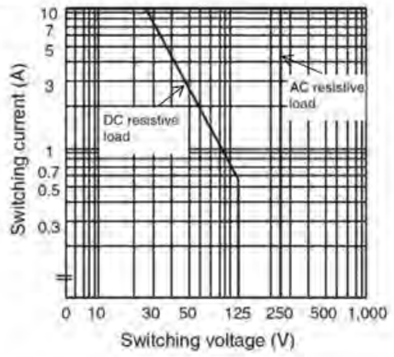
Mounting Holes (Bottom Views) Tolerance: ±0.1mm Unless specified

SPST-NO



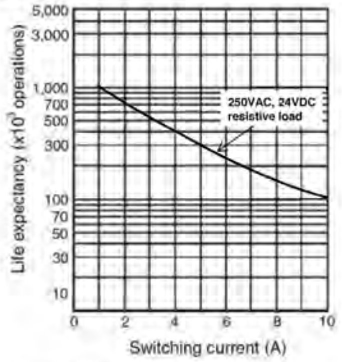
Engineering Data

Max. Switching Power



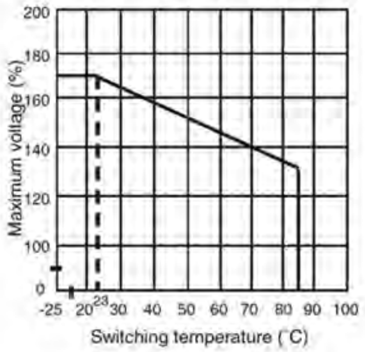
Note: NO contact

Endurance



Note: NO contact, Typical value

Ambient Temp. Vs Max. Voltage



Note: The maximum coil voltage is the maximum value in a varying range of operating power voltages not a continuous voltage

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CAT. No. K901-E2-01