

## 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.



## 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

- |  |  |
|--|--|
| <p><b>1. Number of Poles</b><br/>1: 1 pole</p> <p><b>2. Contact Form/Contact Construction</b><br/>None: SPDT<br/>A: SPST-NO</p> <p><b>3. Sealing/Protective Construction</b><br/>None: Flux protection<br/>4: Fully sealed</p> | <p><b>4. Contact Type</b><br/>None: Standard<br/>E: High capacity (NC side)</p> <p><b>5. UL Insulation System</b><br/>None: Standard<br/>CF: Class F</p> <p><b>6. Rated Coil Voltage</b></p> |
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## 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
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 <sub>2</sub>	
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: λ<sub>60</sub> = 0.1 × 10<sup>-9</sup>/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 <sup>2</sup> (approx. 100G) Malfunction: 100 m/s <sup>2</sup> (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, 85°C, 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, $\cos\phi=1$ , 85°C, 1 sec - flux protection: 50,000 cycles - fully sealed: 10,000 cycles 10A, 250VAC, $\cos\phi=1$ , 85°C, 5 sec 12A, 125VAC, $\cos\phi=1$ , 85°C, 10,000 NC: 10A, 250VAC, $\cos\phi=1$ , 85°C, 25,000 NO/NC: 5A, 250VAC, $\cos\phi=1$ , 85°C - 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)

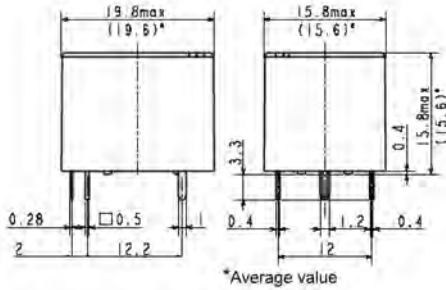
## Dimensions

Note: All units are in millimeters unless otherwise indicated.

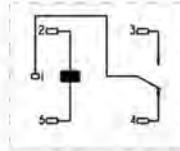
### ■ SPDT Models

Terminal Arrangement/Internal Connections (Bottom View)

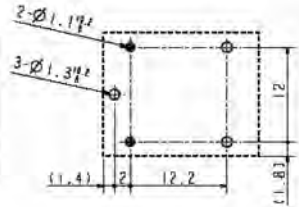
Mounting Holes (Bottom Views)  
Tolerance:  $\pm 0.1\text{mm}$   
Unless specified



SPDT



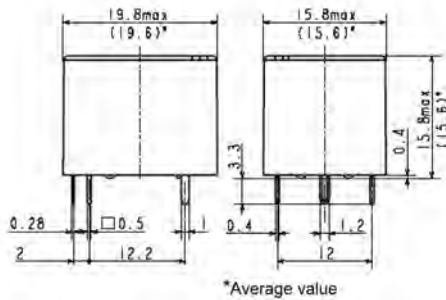
SPDT



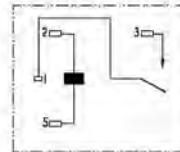
### ■ SPST-NO Models

Terminal Arrangement/Internal Connections (Bottom View)

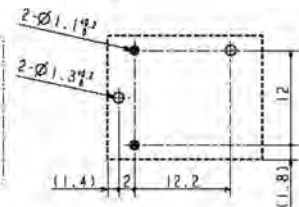
Mounting Holes (Bottom Views)  
Tolerance:  $\pm 0.1\text{mm}$   
Unless specified



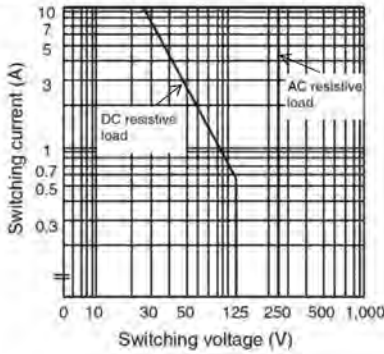
SPST-NO



SPST-NO

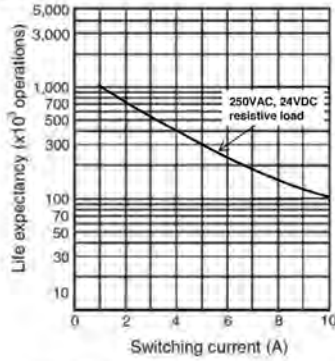


**Max. Switching Power**



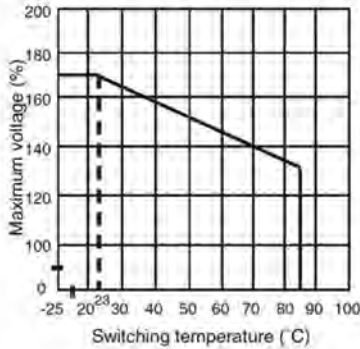
**Note:** NO contact

**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.