

PCB Relay

G5LA

A Cubic, Single-pole 10A Power Relay

- Small size and light weight
 - 19.6 × 15.6 × 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.

Example: G5LA-1 12VDC

Rated coil voltage

■ Model Number Legend

G5LA - □□□-□-□ □VDC
 1 2 3 4 5 6

1. Number of Poles

1: 1pole

2. Contact Form

None: SPDT

A: SPST-NO

3. Enclosure Ratings

None: Flux protection

4: Fully sealed

4. Switching capacity

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
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				480 mW

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 24VDC	5A/5A at 250VAC 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)		100mA at DC5V	

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

■ Characteristics

Contact resistance	100 m Ω max.
Operation time	10 ms max.
Release time	5 ms max.
Max. operating frequency	Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
Insulation resistance	1,000 M Ω 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 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 when energized ; 100 m/s ² when no energized
Endurance	Mechanical: 10,000,000 operations min. Electrical: 100,000 operations typical
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% 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 rating	Contact rating
G5LA	5 to 48 VDC	<p>NO:</p> <p>10A, 277Vac, general use, 100,000 cycles</p> <p>10A, 277Vac, general use, 85°C, 50,000 cycles (-CF model)</p> <p>15A, 125Vac, general use, 50,000 cycles</p> <p>1/2Hp, 125Vac</p> <p>1/2Hp, 250Vac</p> <p>200W tungsten, 125Vac, 100,000 cycles</p> <p>NC:</p> <p>10A, 125Vac, resistive</p> <p>10A, 277Vac, general use, 100,000 cycles (-E model)</p>

EN61810-1 (VDE Reg. No. B652)

Model	Coil rating	Contact rating
G5LA	5,6,9,12,18,24,48 VDC	<p>NO:</p> <p>10A, 250Vac, $\cos\phi=1$, 85°C, 1 sec on/1 sec off</p> <p>- flux protection: 50,000 cycles</p> <p>- fully sealed: 10,000 cycles</p> <p>10A, 250Vac, $\cos\phi=1$, 85°C, 5 sec on/5 sec off, 25,000 cycles</p> <p>12A, 125Vac, $\cos\phi=1$, 85°C, 10,000 cycles</p> <p>NC:</p> <p>10A, 250Vac, $\cos\phi=1$, 85°C, 25,000 cycles (-1-E model)</p> <p>NO/NC:</p> <p>5A, 250Vac, $\cos\phi=1$, 85°C</p> <p>- flux protection: 50,000 cycles</p> <p>- fully sealed: 10,000 cycles</p>

GB15092.1 (CQC File No. CQC06001015477)

Model	Coil rating	Contact rating
G5LA	5,9,12,24,48 VDC	<p>NO:</p> <p>10A, 250Vac, resistive, 10,000 cycles</p> <p>12A, 120Vac, resistive, 10,000 cycles</p> <p>NO/NC:</p> <p>10A, 250Vac, resistive, 10,000 cycles (-E model)</p> <p>12A, 250Vac, resistive, 10,000 cycles (-E model)</p>

Dimensions

Note: All units are in millimeters unless otherwise indicated.

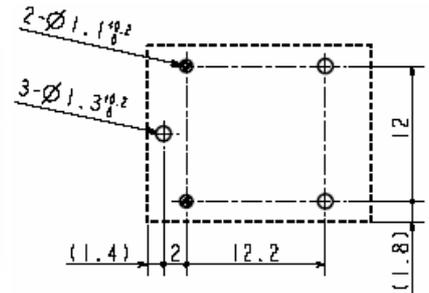
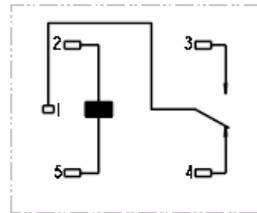
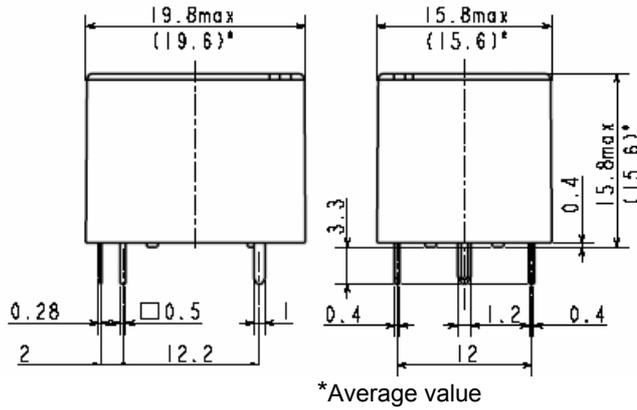
■ SPDT Models

Terminal Arrangement/Internal Connections (Bottom View)

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

SPDT

SPDT



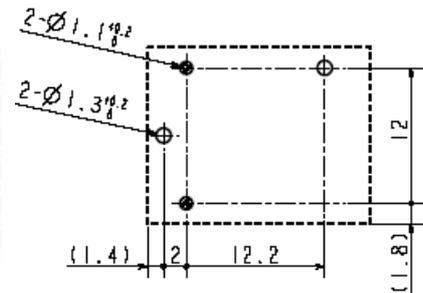
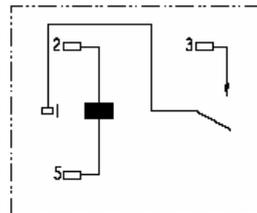
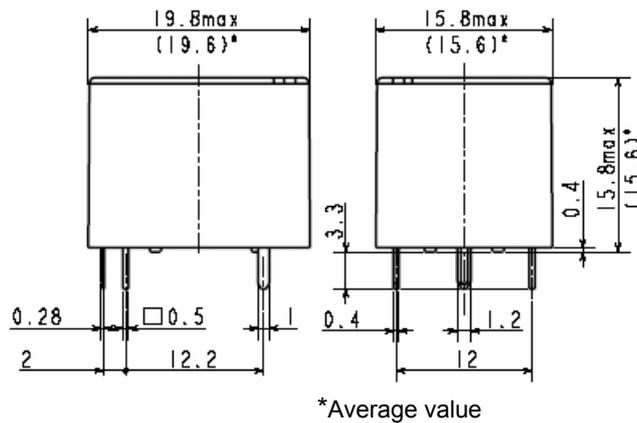
■ SPST-NO Models

Terminal Arrangement/Internal Connections (Bottom View)

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

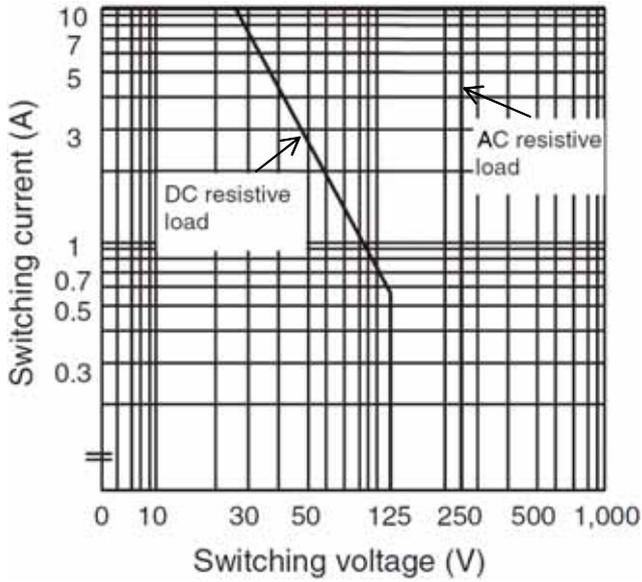
SPST-NO

SPST-NO



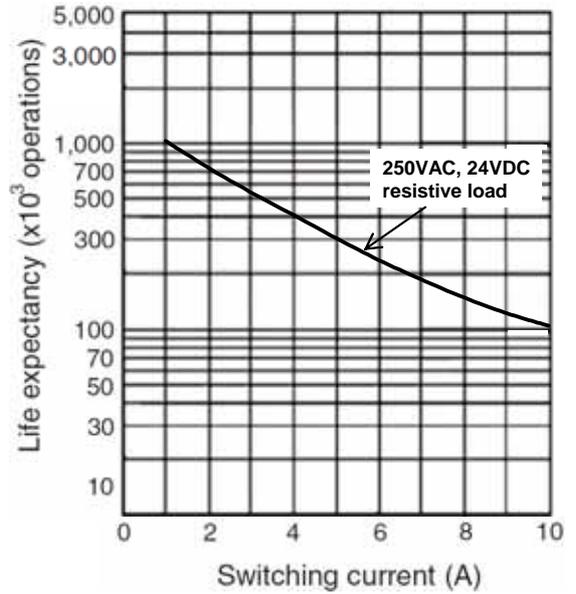
Engineering Data

Max. Switching Power



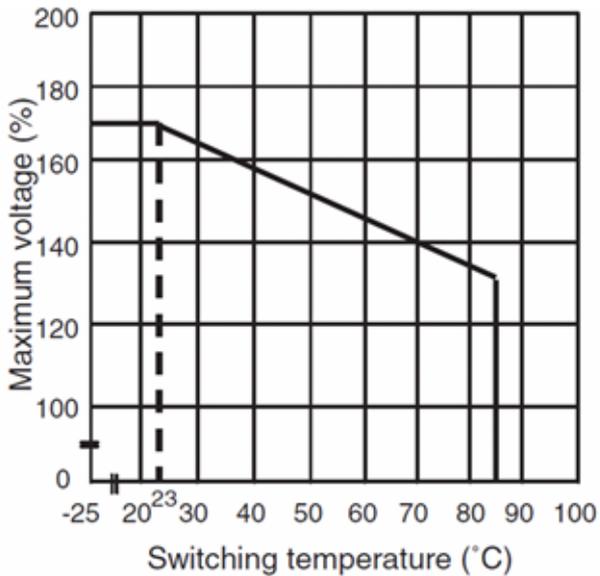
Note: NO contact

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