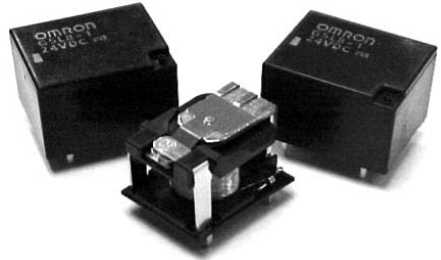


A Cubic, Single-pole 10-A Power Relay

- ROHS compliant.
- L 19.6 x W 15.6 x H 15.2 (mm)
- Subminiature 'Sugar Cube' relays.
- Standard 360mW – Lower Coil power consumption.
- Standard Class B insulation, (Class F available).
- Standard CTI 175, (CTI 250 available).
- Withstands impulse of up to 4,500V.
- Approved to EN 61810-1



Ordering Information

Sealing	Contact Form	Contact Material
		AgSn30:
Unsealed (vent hole)	SPDT	G5LB-1
	SPST-NO	G5LB-1A
Plastic-sealed	SPDT	G5LB-14
	SPST-NO	G5LB-1A4

Note: When ordering, add the rated coil voltage to the number.

Examples : G5LB-1 12 VDC

Rated Coil Voltage

Model Number Legend

G5LB VDC

1 2 3 4 5 6 7 8

1. Number of Poles

1: 1 pole

2. Contact Form/Contact Construction

None: SPDT
A: SPST-NO

3. Sealing/Protective Construction

None: Unsealed (vent hole)
4: Sealed

4. Contact Type

None: Standard (Silver Tin Oxide)

5. Coil Power Consumption

None: 360mW
40: 400mW
60: 600mW (UL and CSA only)

6. Tracking Index and Insulation

None: CTI >175 – Class B Insulation
25: CTI >250 – Class F Insulation

7. Optional Suffix(es)

None: Standards
May include additional numbers(s) and / or letter(s) for sales purposes

8. Rated Coil Value

■ Coil Ratings

Rated voltage	3 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC	36 VDC	48 VDC
Rated current	123.3 mA	72.0 mA	60.8 mA	40.8 mA	30.7 mA	15.2 mA	10.2 mA	7.6 mA
Coil resistance	24.3 Ω	69.4 Ω	98.7 Ω	220.4 Ω	390.6 Ω	1575.4 Ω	3533.7 Ω	6287.4 Ω
Must operate voltage	75% of rated voltage (max.)							
Must release voltage	10% of rated voltage (min.)							
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 ±10%.

Rated voltage	3 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC	36 VDC	48 VDC
Rated current	136.4 mA	80.0 mA	67.8 mA	45.7 mA	32.8 mA	17.0 mA	11.3 mA	8.5 mA
Coil resistance	22.0 Ω	62.5 Ω	88.5 Ω	196.9 Ω	366.0 Ω	1,407.7 Ω	3,196.8 Ω	5,638.0 Ω
Must operate voltage	75% of rated voltage (max.)							
Must release voltage	10% of rated voltage (min.)							
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 ±10%.

Rated voltage	3 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC	36 VDC	48 VDC
Rated current	200.2 mA	120.0 mA	100.7 mA	66.8 mA	50.4 mA	25.3 mA	16.6 mA	12.6 mA
Coil resistance	15.0Ω	41.7 Ω	59.6 Ω	134.8 Ω	237.9 Ω	947.6 Ω	2164.8 Ω	3800.0 Ω
Must operate voltage	75% of rated voltage (max.)							
Must release voltage	10% of rated voltage (min.)							
Max. voltage	130% of rated voltage at 85°C, 170% of rated voltage at 23°C							
Power consumption	Approx. 600 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 ($\cos\varphi = 1$)
Rated load	10A at 120 VAC, 8A at 30 VDC & 10A at 250 VAC
Contact material	AgSnO ₂
Rated carry current	10A
Max. switching voltage	250 VAC, 125 VDC (30 VDC when UL/CSA standard is applied)
Max. switching current	AC: 10A; DC: 8A
Max. switching capacity	1,200 VA, 240 W & 2,500 VA
Min. permissible load	100 mA at 5 VDC

■ Approved Standards

UL 325, UL 873 (File No. E41643)/CSA 22.2 No. 14 (File No. LR3928)

EN 61810-1 (VDE Reg. no A662)

Model	Coil Ratings	Contact Ratings
G5LB	3 - 48 VDC	10A 250 VAC 10A 30 VDC

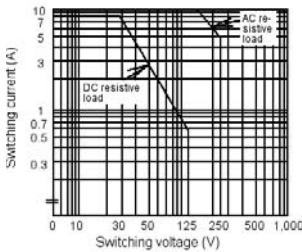
■ Characteristics

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
Insulation Distance	Creepage (Typ)	3.3 mm
	Clearance (Typ)	2.7 mm
Tracking Resistance (CTI)		250 V
Dielectric strength		750 VAC, 50/60 Hz for 1 min. between contacts of same polarity 2,000 VAC, 50/60 Hz for 1 min. between coil and contacts
Impulse withstand voltage		4,500V between coil and contacts, 1.2 x 5 μsec
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)
Life expectancy		Mechanical: 10,000,000 operations min. (at 18,000 operations/hr) Electrical: *100,000 operations min. (at 1,800 operations/hr, 10A 120VAC)
Ambient temperature		Operating: -40°C to 85°C
Ambient humidity		Operating: 35% to 85°C
Weight		Approx. 10g*

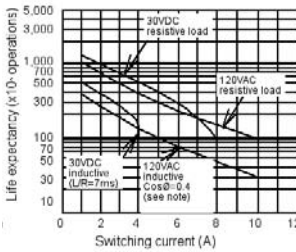
*G5LB-1

Engineering Data

Max. Switching Capacity G5LB-1

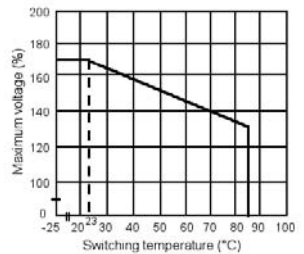


Life Expectancy G5LB-1



Note: Curve 120VAC inductive $\text{Cos}\phi = 0.4$ is same for 250VAC resistive load.

Ambient Temp. Vs Max. Voltage



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

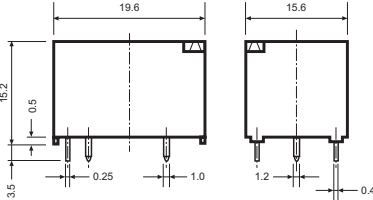
Dimensions

Note: 1. All units are millimeters unless otherwise indicated

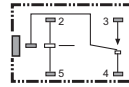
2. Orientation marks are indicated as follow:

■ SPDT Types

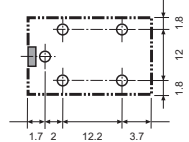
G5LB-1



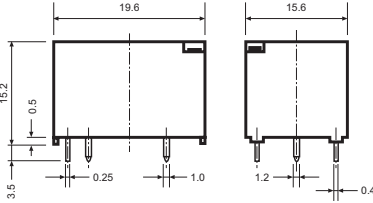
Terminal Arrangement/
Internal Connections
(Bottom View)



Mounting Holes
(Bottom View)
Tolerance: $\pm 0.1\text{mm}$

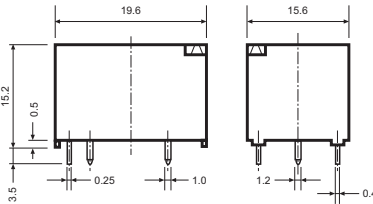


G5LB-14

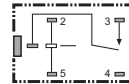


■ SPST Types

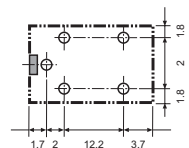
G5LB-1



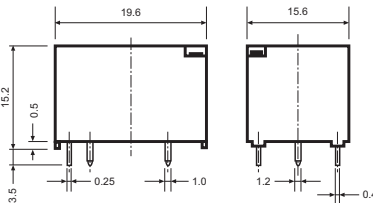
Terminal Arrangement/
Internal Connections
(Bottom View)



Mounting Holes
(Bottom View)
Tolerance: $\pm 0.1\text{mm}$



G5LB-1A4



ALL DIMENSIONS SHOWN ARE IN MILLIMETRES.

To convert millimetres into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.