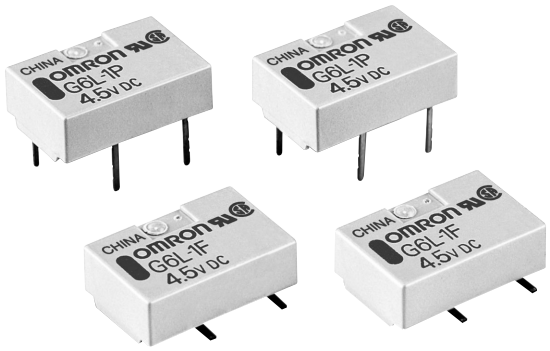
Ultra-thin Low Signal Relay
G6L

Extremely Thin SPST-NO Flat Relay, One of the Thinnest Relays in the World

- For high-density mounting and slim finished packaging, G6L uses 20% less mounting area and 67% less volume in comparison with the G5V-1 relay.
- Measures just 7.0 (W) x 10.6 (L) x 4.5 (H) mm for surface-mount or 4.1 (H) for through-hole.*
- High dielectric strength: 1,000 VAC between coil and contacts and 750 VAC between contacts of the same polarity.
- Conforms to FCC Part 68 impulse withstand voltage rating of 1.5kV for 10 x 160 μs.
- Conforms to UL60950 (File No. E41515) / CSA C22.2 No. 60950 (File No. LR31928).
- Use of lead completely eliminated.
- RoHS Compliant.



Ordering Information

Contact form	Construction	Mounting type	Model
SPST-NO	Fully sealed	Through-hole terminal	G6L-1P
		Surface-mount terminal	G6L-1F

Note: 1. When ordering, add the rated coil voltage to the model number.
Example: G6L-1P 12 VDC
Rated coil voltage

2. When ordering tape packing, add "-TR" to the model number.
Example: G6L-1F-TR 12 VDC
Tape packing

Be sure since "-TR" is not part of the relay model number, it is not marked on the relay case.

Model Number Legend:

G6L□-1□-□DC□
1 2 3 4 5

1. **Relay function**
   None: Non-latching
2. **Contact form**
   1: SPST-NO
3. **Terminal shape**
   P: PCB terminals
   F: Surface-mount terminals
4. **Packaging**
   None: Tube packaging
   TR: Tape and reel packaging
5. **Rated Coil Voltage**
   3, 4.5, 5, 12, 24

■ Application Examples

- Peripherals of MODEM/PC
- Telephones
- Office automation machines
- Audio-visual products
- Communications equipment
- Measurement devices
- Amusement equipment
- Security equipment

*This dimension effective, April 2005.

Specifications

■ Contact Ratings

Item	Resistive load
Contact mechanism	Single crossbar
Rated load	0.3 A at 125 VAC, 1 A at 24 VDC
Carry current	1 A
Max. operating voltage	125 VAC, 60 VDC
Max. operating current	1 A

■ Coil Ratings

Item	Voltage Rating				
Rated voltage	3 VDC	4.5 VDC	5 VDC	12 VDC	24 VDC
Rated current	60.0 mA	40.0 mA	36.0 mA	15.0 mA	9.6 mA
Coil resistance	50.0 Ω	112.5 Ω	139.0 Ω	800.0 Ω	2,504.0 Ω
Pick-up voltage	75% max. of rated voltage				
Dropout voltage	10% min. of rated voltage				
Maximum voltage	150% of rated voltage				130% of rated voltage
Power consumption	Approx. 180 mW				Approx. 230 mW

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.

2. The operating characteristics are measured at a coil temperature of 23°C.

3. The maximum voltage is the highest voltage that can be imposed on the relay coil.

■ Characteristics

Item		Non-latching Relays
		G6L-1P, G6L-1F
Contact resistance (See Note 1)		100 mΩ max.
Operate time (See Note 2)		5 ms max. (approx. 1.1 ms)
Release time (See Note 2)		5 ms max. (approx. 0.4 ms)
Insulation resistance (See Note 3)		1,000 MΩ min. (at 500 VDC)
Dielectric strength	Coil and contacts	1,000 VAC, 50/60 Hz for 1 min
	Contacts of same poles	750 VAC, 50/60 Hz for 1 min
Surge withstand voltage	Coil and contacts	1,500 VAC, 10 × 160 μs
Vibration	Mechanical durability	10 to 55 Hz, 1.65-mm single amplitude (3.3-mm double amplitude)
	Malfunction durability	10 to 55 Hz, 1.65-mm single amplitude (3.3-mm double amplitude)
Shock	Mechanical durability	1,000 m/s^2
	Malfunction durability	100 m/s^2
Service life	Mechanical	5,000,000 operations min. (at 36,000 operations/hour)
	Electrical	100,000 operations min. (with a rated load at 1,800 operations/hour)
Failure rate (P level) (See Note 4)		1 mA at 5 VDC
Ambient temperature		Operating: -40°C to 70°C (with no icing or condensation)
Humidity		Operating: 5% to 85% RH
Weight		Approx. 0.6 g

Note: 1. The contact resistance was measured with 10 mA at 1 VDC with a fall-of-potential method.

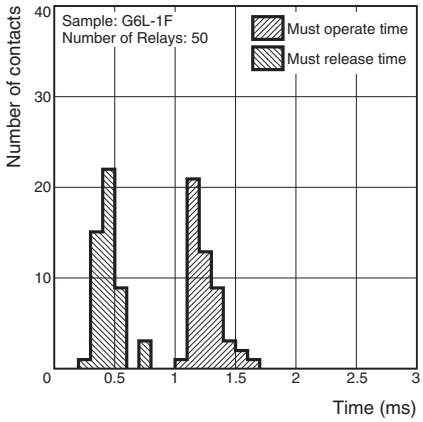
2. Values in parentheses are actual values.

3. The insulation resistance was measured with a 500-VDC Megger Tester applied to the same parts as those used for checking the dielectric strength.

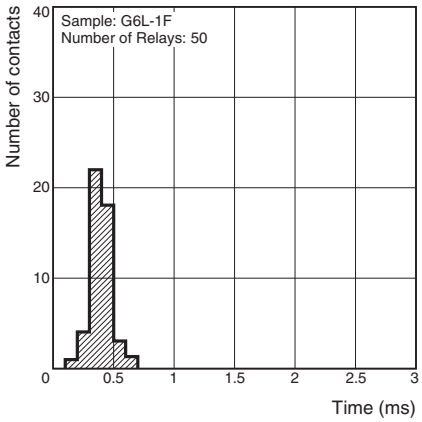
4. This value was measured at a switching frequency of 120 operations/min. This value may vary, depending on switching frequency, operating conditions, expected reliability level of the relay, etc. It is always recommended to double-check relay suitability under actual load conditions.

5. The above values are initial values.

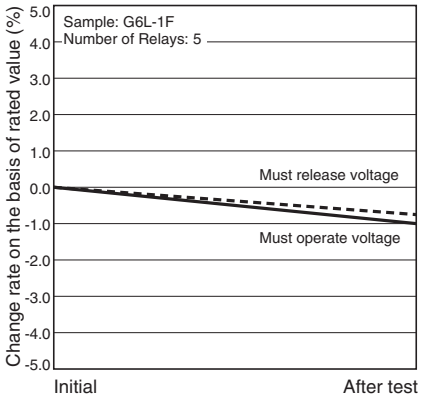
Must Operate and Must Release Time Distribution (See Note)



Distribution of Bounce Time (See Note)



Vibration Resistance

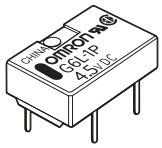


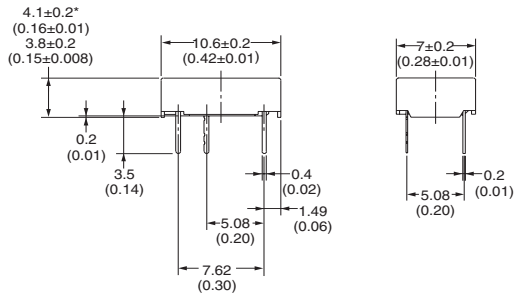
Note: The tests were conducted at an ambient temperature of 23ºC.

Dimensions

Unit: mm (inch)

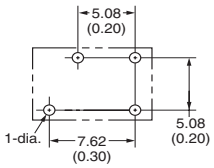
G6L-1P



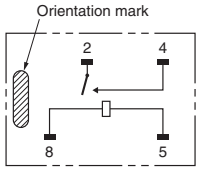


PCB Mounting Holes (Bottom View)

Tolerance: ±0.1 mm



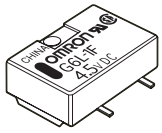
Terminal Arrangement/ Internal Connections (Bottom View)

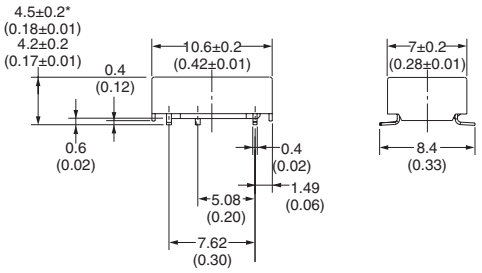


Note: Each value has a tolerance of ±0.3 mm.

*This dimension effective April, 2005.

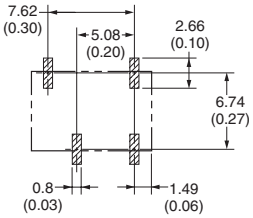
G6L-1F



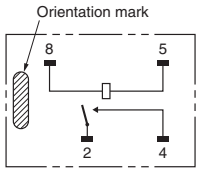


PCB Mounting Holes (Top View)

Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (Top View)



Note: Each value has a tolerance of ±0.3 mm.

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