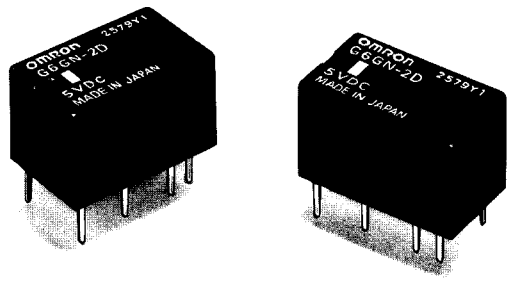
OMRON

PCB Relay

G6GN

Two-pole Signal Relay with a Dielectric Strength of 2.5 kV Ideal for Switching Telephone Lines (MBB Contact)

- Compact (16 x 10 x 9.4 mm (L x W x H)) with a dielectric strength of 2,500 V between coil and contacts.
- Insulation distance of 3 mm minimum between coil and contacts.
- Power consumption of 360 mW.
- Plastic-sealed construction.



Ordering Information

Contact form	Coil rated voltage	Model
		Plastic-sealed
2d (MBB contact)	5 VDC	G6GN-2D
	12 VDC	
	24 VDC	

Note: When ordering, add the rated coil voltage to the model number.
Example: G6GN-2D 12 VDC
Rated coil voltage

Model Number Legend:

G6GN-□□ □ VDC
1 2 3

1. **Number of Poles**
   2: 2 poles
2. **Contact Form**
   D: d contact (MBB contact)
3. **Rated Coil Voltage**
   5, 12, 24 VDC

Specifications

■ Coil Ratings

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	72 mA	30 mA	15 mA
Coil resistance	69.4 Ω	400 Ω	1,600 Ω
Must operate voltage	75% max. of rated voltage		
Must release voltage	10% min. of rated voltage		
Max. voltage	110% of rated voltage		
Power consumption	Approx. 360 mW		

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%
2. Operating characteristics are measured at a coil temperature of 23°C.
3. The maximum voltage is the upper limit of the permissible voltage range applied to the relay coil.

■ Contact Ratings

Load	Resistive load
Rated load	0.5 A at 48 VDC
Contact material	Au clad + Ag
Rated carry current	0.5 A
Max. switching voltage	100 VDC
Max. switching current	0.5 A
Max. switching capacity	24 W
Min. permissible load	10 mA at 5 VDC

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

■ Characteristics

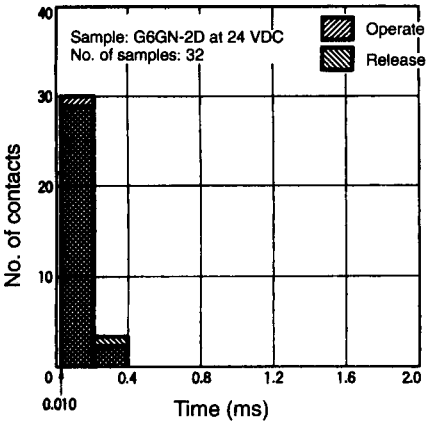
Contact resistance	50 mΩ max.
Operate time	5 ms max.
Release time	5 ms max.
MBB time	0.01 ms min.
Insulation resistance	1,000 MΩ min.
Dielectric strength	2,500 VAC for 1 min between coil and contacts 500 VAC for 1 min between contacts of same polarity 1,000 VAC for 1 min between contacts of different 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 (approx. 10G)
Life expectancy	Mechanical: 1,000,000 operations min. (at 36,000 operations/h) Electrical: 100,000 operations min. (at 1,800 operations/h, resistive load)
Ambient temperature	Operating: –25°C to 70°C (with no icing or condensation) Storage: –25°C to 70°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 85% Storage: 35% to 85%
Weight	Approx. 3 g

Note: The data items shown above are initial values.

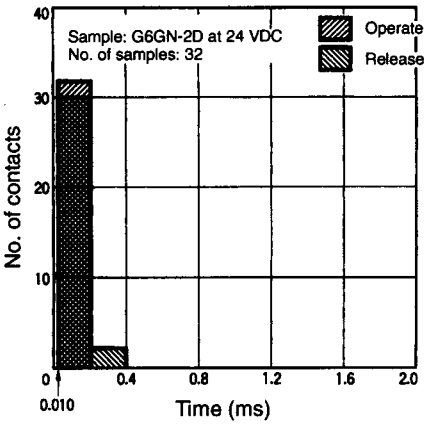
Engineering Data

Overlap Time (MBB Contact)

G6GN-2D (Terminals 3, 5, and 6)

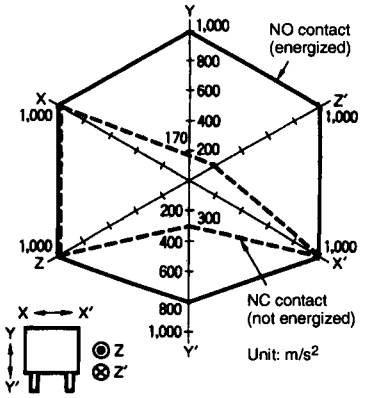


G6GN-2D (Terminals 10, 8, and 7)



Malfunctioning Shock

G6GN-2D

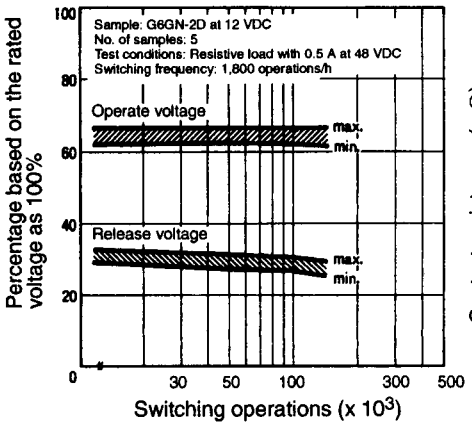


Shock directions (with coil terminals on the front side)

Measurement: The G6GN-2D was shocked with an impact of 100 m/s² (i.e., approximately 10G) in six directions along the X, Y, and Z axes three times without energizing the G6GN-2D and three times by energizing the G6GN-2D. Then, the number of contact malfunctions was checked.

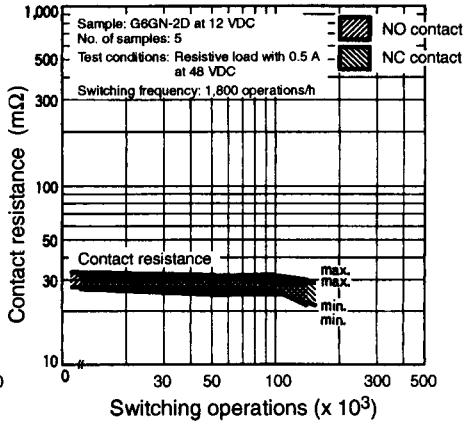
Electrical Life Expectancy (Operate/Release Voltage)

G6GN-2D



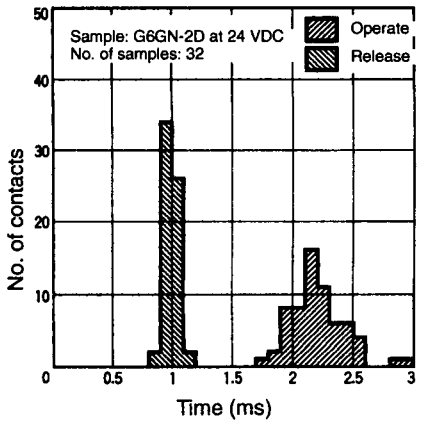
Electrical Life Expectancy (Contact Resistance)

G6GN-2D



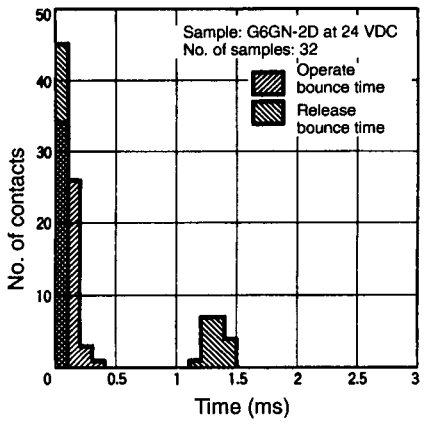
Release Time Distribution

G6GN-2D



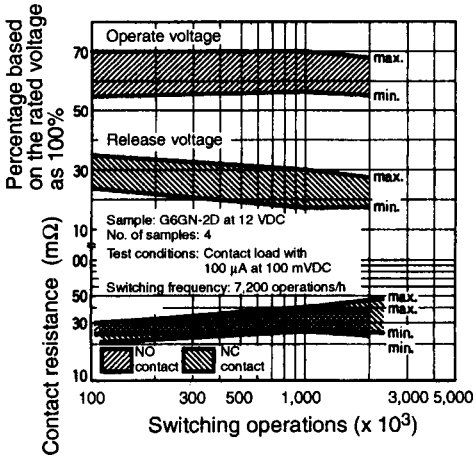
Bounce Time Distribution

G6GN-2D



Contact Reliability Test

G6GN-2D

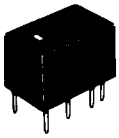


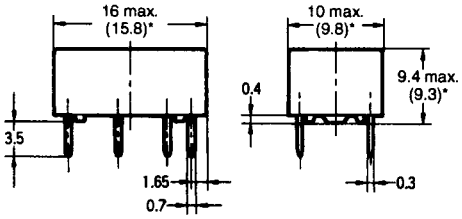
Dimensions

Note: 1. All units are in millimeters unless otherwise indicated.

2. Orientation marks are indicated as follows:

G6GN-2D

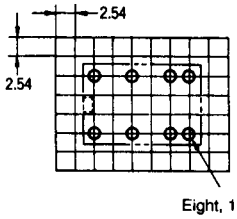




*Average value

PCB Dimensions (Bottom View)

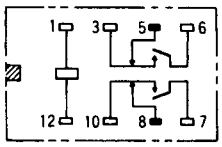
Tolerance: ±0.1 mm



Eight, 1-dia. holes

Terminal Arrangement/ Internal Connections (Bottom View)

(MBB contact)



Precautions

■ Correct In Use

MBB Operation

The contacts of the G6GN may be separated only for a moment after the contacts touch each other due to bouncing of the contacts, which should be taken into consideration when using G6GN.

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