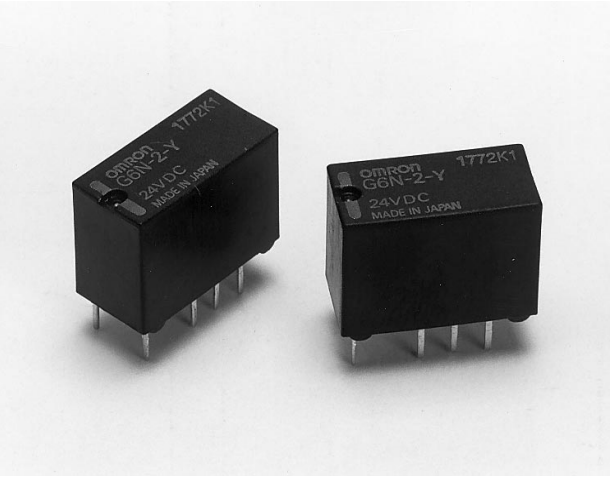
OMRON

PCB Relay

G6N

Telecom Relay Which Meets the Bell-Core Requirements for 2.5KV Coil-Contact Isolation

- Surge withstand of 2.5KV for 2x10µs meets Bell–Core requirements.
- Dielectric Strength of 1,500 VAC.
- Low coil power consumption 140 mW – 200 mW.
- Very small footprint with a maximum height of 11mm.
- Fully sealed construction.
- UL and CSA approved.



Ordering Information

Model	Classification			
	Contact form	Contac ttype	Contact Material	Structure
G6N–2Y	DPDT	Bifucated crossbar	Ag+Au clad	Plastic sealed

Model Number Legend:

G6N □ - □ - □ □ VDC

1 2 3 4

1. **Relay Function**
   None: Single-side stable
2. **Contact Form**
   2: DPDT
3. **Classification**
   Y: High dielectric withstand
4. **Rated Coil Voltage**
   4.5, 5, 6, 9, 12, 24 VDC

Specifications

■ Coil Ratings (G6N-2-Y)

Rated voltage		4.5 VDC	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC
Rated current		31 mA	28.1 mA	23.3 mA	15.5 mA	11.7 mA	8.3 mA
Coil resistance		145 Ω	178 Ω	257 Ω	579 Ω	1,028 Ω	2,880 Ω
Coil inductance	**Armature OFF**	0.096	0.065	0.11	0.24	0.43	1.2
(H) (ref. value)	**Armature ON**	0.083	0.058	0.09	0.20	0.37	1.0
Must operate voltage		75% max. of rated voltage					
Must release voltage		10% min. of rated voltage					
Max. voltage		200% of rated voltage at 23°C, 140% at 70°C					170% of rated voltage at 23°C, 120% at 70°C
Power consumption		Approx. 140 mW					Approx. 200 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.

■ Contact Ratings

Load	Resistive load (cos∅ = 1)
Rated load	0.5 A at 125 VAC; 1 A at 30 VDC
Contact material	Ag (Au-clad)
Rated carry current	2 A
Max. switching voltage	250 VAC, 220 VDC
Max. switching current	1.25 A
Max. switching capacity	62.5 VA, 30 W
Min. permissible load	10 µA at 10 mVDC

Note: P level: λ_{60} = 0.1 x 10^{-6}/operation

■ Characteristics

Contact resistance	50 mΩ max.
Operate time	5 ms max. (mean value: approx. 2.5 ms)
Release time	3 ms max. (mean value: approx. 1.5 ms)
Bounce time	Operate: Approx. 0.5 ms Release: Approx. 0.5 ms Set/reset: Approx. 0.5 ms
Max. operating frequency	Mechanical: 36,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric withstand voltage	1,500 VAC, 50/60 Hz for 1 min between coil and contacts 1,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage	2,500 V 2 x 10 µs between coil and contacts 1,500 V 10 x 160 µs between contacts of same polarity (conforms to FCC Part 68)
Vibration resistance	Destruction: 10 to 55 Hz, 5-mm double amplitude Malfunction: 10 to 55 Hz, 3-mm double amplitude
Shock resistance	Destruction: 1,000 m/s^2 (approx. 100G) Malfunction: 500 m/s^2 (approx. 50G)
Life expectancy	Mechanical: 100,000,000 operations min. (at 36,000 operations/hr) Electrical: 300,000 operations min. (1 A at 30 VDC, resistive load) 200,000 operations min. (0.5 A at 125 VAC, resistive load)
Ambient temperature	Operating: –40°C to 70°C (with no icing) Storage: –40°C to 70°C (with no icing)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 3 g

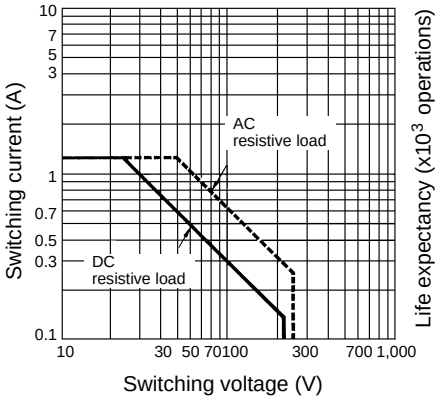
■ Approved Standards

UL478, UL1950 (File No. E41515)/CSA C22.2 No.0, No.14 (File No. LR24825)

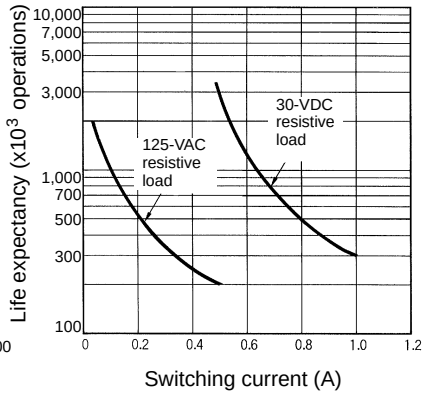
Model	Contact form	Coil ratings	Contact ratings
G6N-2-Y	DPDT	4.5 to 48 VDC	2 A, 30 VDC 0.3 A, 110 VDC 0.5 A, 125 VAC

Engineering Data

Max. Switching Capacity

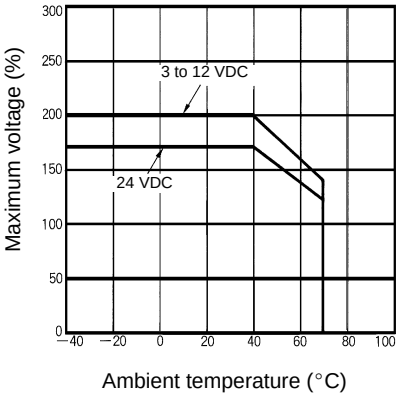


Life Expectancy



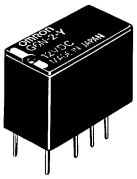
Ambient Temperature vs. Maximum Voltage

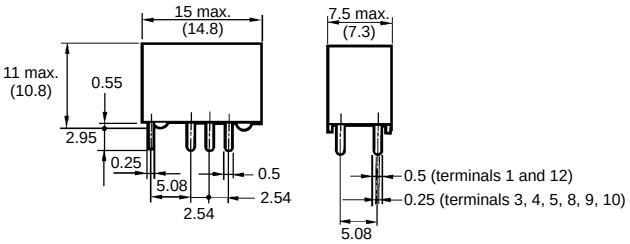
Single-side Stable (G6N-2-Y)



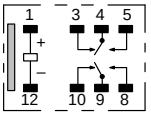
Dimensions

Note: 1. Orientation marks are indicated as follows:





Terminal Arrangement/ Internal Connections (Bottom View)



Mounting Holes (Bottom View)

Tolerance: +0.1