

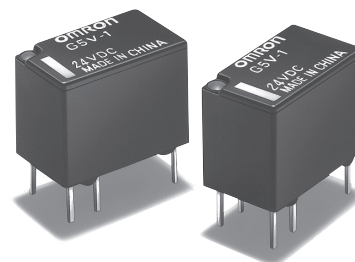
G5V-1

Low Signal Relay

Ultra-miniature, Highly Sensitive SPDT Relay for Signal Circuits



- Ultra-miniature at 12.5 × 7.5 × 10 mm (L × W × H).
- Wide switching power of 1 mA to 1 A.
- High sensitivity: 150 mW nominal coil power consumption.
- Fully-sealed construction offering environment resistance.
- Conforms to FCC Part 68 requirements for coil to contacts.
(1,500 V, 10 × 160 μs)
- Models for ambient temperatures up to 90°C added to series.



RoHS Compliant

Model Number Legend

G5V-□-□
1 2

1. Number of Poles/Contact Form

1: 1-pole/SPDT (1c)

2. Classification

None: Standard (Ambient operating temperature 70°C max.)

T90: Ambient operating temperature 90°C max.

Application Examples

- Telecommunication equipment
- Audio-visual products
- Security equipment
- Building automation equipment

Ordering Information

Classification	Enclosure rating	Contact form	Terminal Shape	Model	Rated coil voltage	Minimum packing unit
Standard	Fully sealed	SPDT (1c)	PCB terminals	G5V-1	3 VDC	25 pcs/tube
					5 VDC	
					6 VDC	
					9 VDC	
					12 VDC	
					24 VDC	
G5V-1-T90				G5V-1-T90	5 VDC	
					12 VDC	
					24 VDC	

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

Example: G5V-1 DC3

Rated coil voltage

However, the notation of the coil voltage on the product case as well as on the packing will be marked as □□ VDC.

Standard Model Specifications

Contact type: Single crossbar (Au-alloy + Ag)

Enclosure rating: Plastic sealed

Terminal shape: PCB terminals

Ratings

Coil

G5V-1 (Standard)

Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Max. voltage (V)	Power consumption (mW)
			% of rated voltage			
3 VDC	50	60	80% max.	10% min.	200% at 23°C	Approx. 150
5 VDC	30	167				
6 VDC	25	240				
9 VDC	16.7	540				
12 VDC	12.5	960				
24 VDC	6.25	3,840				

G5V-1-T90

Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Max. voltage (V)	Power consumption (mW)
			% of rated voltage			
5 VDC	30	167	70% max.	10% min.	200% at 23°C	Approx. 150
12 VDC	12.5	960				
24 VDC	6.25	3,840				

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.

4. G5V-1-2 types with a must operate voltage of 70% max. are available as special series products.

Contacts

Item	Load	Resistive load
Contact type	Single crossbar	
Contact material	Au-alloy + Ag	
Rated load	0.5 A at 125 VAC; 1 A at 24 VDC	
Rated carry current	2 A	
Max. switching voltage	125 VAC, 60 VDC	
Max. switching current	1 A	

G
5
V
-
1

■Characteristics

Contact resistance *1		100 mΩ max.
Operate time		5 ms max.
Release time		5 ms max.
Insulation resistance *2		1,000 MΩ min. (at 500 VDC between coil and contacts, at 250 VDC between contacts of same polarity.)
Dielectric strength	Between coil and contacts	1,000 VAC, 50/60 Hz for 1 min
	Between contacts of the same polarity	400 VAC, 50/60 Hz for 1 min
Vibration resistance	Destruction	10 to 55 to 10 Hz, 1.65 mm single amplitude (3.3 mm double amplitude)
	Malfunction	10 to 55 to 10 Hz, 1.65 mm single amplitude (3.3 mm double amplitude)
Shock resistance	Destruction	1,000 m/s ²
	Malfunction	100 m/s ²
Durability	Mechanical	5,000,000 operations min. (at 36,000 operations/hr)
	Electrical	100,000 operations min. (under rated load, at 1,800 operations/hr)
Failure rate (P level) (reference value) *3		1 mA at 5 VDC
Ambient operating temperature		-40°C to 70°C (Standard), -40°C to 90°C (G5V-1-T90) (with no icing or condensation)
Ambient operating humidity		5% to 85%
Weight		Approx. 2 g

Note: The values here are initial values.

*1. Measured with 10 mA at 1 VDC with a voltage drop method.

*2. Measured with a 500 VDC megohmmeter between coil and contacts and a 250 VDC megohmmeter between contacts with the same polarity applied to the same parts as those used for checking the dielectric strength.

*3. This value was measured at a switching frequency of 120 operations/min and the criterion of contact resistance is 100 Ω.

This value may vary depending on the switching frequency and operating environment. Always double-check relay suitability under actual operating conditions.