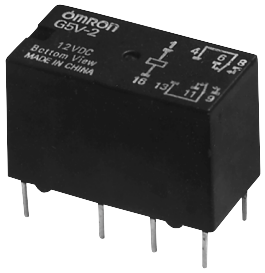
OMRON

Low Signal Relay

G5V-2

- Suitable for handling low signals in computer peripherals, telecommunications and security equipment
- Capable of switching loads up to 2 A
- Conforms to FCC part 68 1500 V surge withstand
- Reliable bifurcated crossbar contacts
- Fully-sealed construction



Ordering Information

To Order: Select the part number and add the desired coil voltage rating (e.g., G5V-2-*DC12*).

Type	Contact form	Construction	**Part number**
Standard	DPDT	Fully-sealed	**G5V-2**
High-sensitivity			**G5V-2-H**
Ultra-sensitive			**G5V-2-H1**

Specifications

■ CONTACT DATA

Load	Resistive load (p.f. = 1)
Rated load	0.50 A at 125 VAC 2 A at 30 VDC
Contact material	Ag (Au clad)
Carry current	2 A
Max. operating voltage	125 VAC 125 VDC
Max. operating current	2 A
Max. switching capacity	62.50 VA 60W
Min. permissible load	10 μA, 10 mVDC

■ COIL DATA

Standard type

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (Ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON	% of rated voltage			
3	166.70	18	0.04	0.05	75% max.	5% min.	120% max. at 65°C (149°F)	Approx. 500
5	100	50	0.09	0.11				
6	83.30	72	0.16	0.19				
9	55.60	162	0.31	0.49				
12	41.70	288	0.47	0.74				
24	20.80	1,152	1.98	2.68				
48	12	4,000	—	—			110% max. at 60°C (140°F)	Approx. 580

High-sensitivity type

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (Ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON	% of rated voltage			
3	120	25	0.04	0.07	75% max.	5% min.	120% max. at 70°C (158°F)	Approx. 360
5	72	70	0.12	0.19				
6	60	100	0.18	0.29				
9	40	225	0.40	0.62				
12	30	400	0.75	1.18				
24	15	1,600	3.16	4.81				
48	7.5	6,400	—	—			110% max. at 70°C (158°F)	

Ultra-sensitive type

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (Ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON	% of rated voltage			
3	50	60	0.18	0.26	75% max.	5% min.	150% max. at 70°C (158°F)	Approx. 150
5	30	166.70	0.46	0.71				
6	25	240	0.70	0.97				
9	16.70	540	1.67	2.33				
12	12.50	960	2.90	3.99				
24	8.30	2,880	6.72	9.27				Approx. 200
48	6.25	7,680	20.10	26.70				Approx. 300

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.
2. The operating characteristics are measured at a coil temperature of 23°C (73°F).

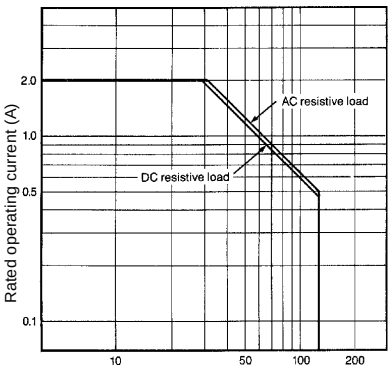
■ CHARACTERISTICS

Contact resistance		50 mΩ max. G5V-2, G5V-2-H, 100 mΩ max. G5V-2-H1
Operate time		7 ms max. (mean value: approx. 3.5 ms)
Release time		3 ms max. (mean value: approx. 0.8 ms)
Bounce time	Operate	Mean value: approx. 0.5 ms
	Release	Mean value: approx. 3.5 ms
Operating frequency	Mechanical	36,000 operations/hour
	Electrical	1,800 operations/hour (under rated load)
Insulation resistance		1,000 MΩ min (at 500 VDC)
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between coil and contacts 1,000 VAC, 50/60 Hz for 1 minute between contacts of different poles 750 VAC, 50/60 Hz for 1 minute between contacts of same poles (500 VAC, 50/60 Hz for 1 minute between contacts of same poles for ultra-sensitive type)
Surge withstand voltage		1,500 V 10 X 160 μs (conforms to part 68 of FCC rules)
Vibration	Mechanical durability	10 to 55 Hz, 1.50 mm (0.59 in) double amplitude
	Malfunction durability	
Shock	Mechanical durability	1,000 m/s^2 (approx. 100 G)
	Malfunction durability	200 m/s^2 (approx. 20 G)
Ambient temperature	Operating/storage	-25° to 70°C (-13° to 158°F)
Humidity		35% to 85% RH
Service life	Mechanical	15 million operations min. (at operating frequency of 36,000 operations/hour)
	Electrical	See “Characteristic Data”
Weight		6 g (0.21 oz)

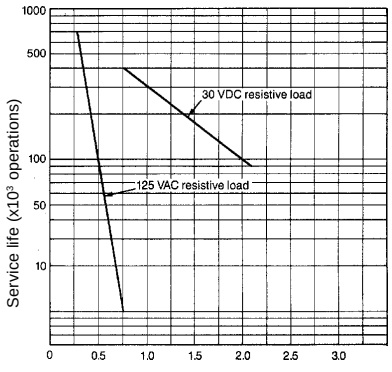
Note: Data shown are of initial value.

■ CHARACTERISTIC DATA

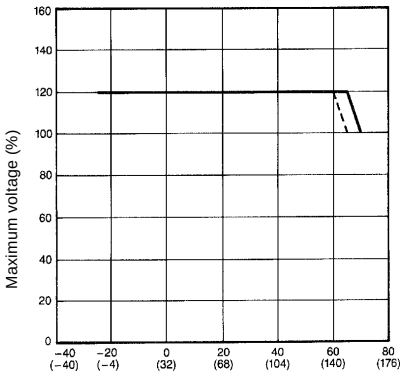
Maximum switching capacity



Electrical service life



Ambient temperature vs. maximum voltage

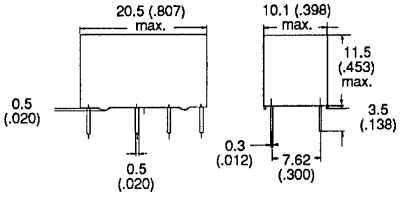


Dimensions

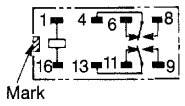
Unit: mm (inch)

■ RELAYS

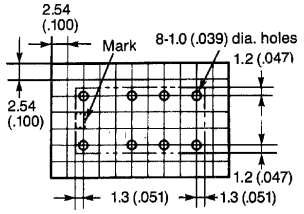
Fully-sealed



Terminal arrangement/Internal (bottom view)



Mounting holes (bottom view)



Note: 1. ▨ and [ ] indicate mounting orientation marks.
2. A tolerance of ±0.10 (0.004) applies to the above dimensions.

■ APPROVALS

UL (File No. E41515)/CSA (File No. LR24825)

Type	Contact form	Coil rating	Contact ratings
G5V-2	DPDT	3 to 48 VDC	0.6 A, 125 VAC
G5V-2-H		3 to 24 VDC	0.6 A,110 VDC
			2.0 A, 30 VDC
G5V-2-H1		3 to 48 VDC	0.6 A, 125 VAC
			0.6 A, 110 VDC
			1.0 A, 24 VDC

Note: 1. The rated values approved by each of the safety standards may be different from the performance characteristics individually defined in this catalog.
2. In the interest of product improvement, specifications are subject to change.
3. Complies with UL1950 Basic Insulation at 125 V (pollution degree 1 for internal spacings, pollution degree 2 for external spacings).

NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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