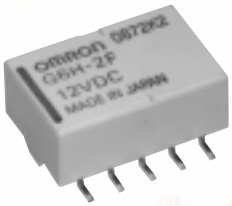
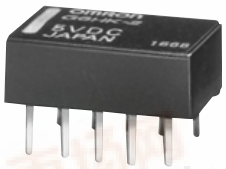
OMRON

Low Signal Relay

G6H

- Compact size and low 5 mm (0.20 in) profile
- Low thermoelectromotive force
- Low magnetic interference enables high-density mounting
- Utilizes OMRON's moving-loop design
- Bifurcated contacts for high sensitivity
- Available in surface mount
- Surface mount version can be soldered by VPS, IRS, and DWS methods
- Highly stable magnetic circuit for latching endurance and excellent resistance to vibration and shock
- High sensitivity with low nominal power consumption
- Single or double coil winding types available





Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6H-2-*DC6*).

NON-LATCHING

Type	Contact form	Part number
Standard	DPDT	**G6H-2**
High-reliability		**G6H-2-100**
Surface mount		**G6H-2-F**

LATCHING

Type	Contact form	Part number	
		Single coil latching	Dual coil latching
Standard	DPDT	**G6HU-2**	**G6HK-2**
High-reliability		**G6HU-2-100**	**G6HK-2-100**

Specifications

■ CONTACT DATA

Load	Resistive load (p.f. = 1)
Rated load	0.50 A at 125 VAC, 1 A at 30 VDC
Contact material	Ag (Au clad)
Carry current	1 A
Max. operating voltage	125 VAC, 110 VDC
Max. operating current	1 A
Max. switching capacity	62.50 VA, 33 W
Min. permissible load	10 μA, 10 mVDC

■ COIL DATA

Standard and high reliability non-latching type (G6H-2, G6H-2-100)

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	46.70	64.30	0.03	0.02	75% max.	10% min.	200% max.	Approx. 140
5	28.10	178	0.07	0.06				
6	23.30	257	0.11	0.09				
9	15.50	579	0.24	0.20				
12	11.70	1,028	0.43	0.37				
24	8.30	2,880	1.20	0.98			170% max.	Approx. 200

Surface mount non-latching type (G6H-2-F)

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	46.70	64.30	0.03	0.03	75% max.	10% min.	200% max. 23°C (73°F)	Approx. 140
5	28.10	178	0.07	0.06				
6	23.30	257	0.11	0.09				
9	15.50	579	0.24	0.20			115% max. 85°C (185°F)	
12	11.70	1,028	0.43	0.37				
24	8.30	2,880	1.20	0.98			170% 23°C (73°F) 105% 85°C (185°F)	Approx. 200

Single coil latching type (G6HU-2, G6HU-2-100)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
3	33.30	90	75% max.	75% max.	190% max.	Approx. 100
5	20	250				
6	16.70	360				
9	11.10	810				
12	8.30	1,440				
24	6.25	3,840				Approx. 150

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).

■ COIL DATA (continued)

Dual coil latching type (G6HK-2, G6HK-2-100)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
3	66.70	45	75% max.	75% max.	150% max.	Approx. 200
5	40	125				
6	33.30	180				
9	22.20	405				
12	16.70	720				
24	12.50	1,920				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).

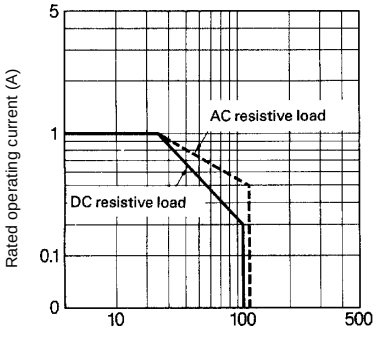
■ CHARACTERISTICS

Contact resistance		50 mΩ max. (standard); 60 mΩ max. (surface mount)
Operate (set) time		3 ms max. (mean value: approx. 2.0 ms)
Release (reset) time		2 ms max. (mean value: approx. 1.0 ms)
Operating frequency	Mechanical	36,000 operations/hour
	Electrical	1,800 operations/hour (under rated load)
Insulation resistance		1,000 MΩ max. (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 pole
Surge withstand voltage		1,500 V 10 x 160 μs between contacts of same polarity (conforms to FCC Part 68)
Vibration	Mechanical durability	10 to 55 Hz; 5 mm (0.20 in) double amplitude
	Malfunction durability	10 to 55 Hz; 3 mm (0.12 in) double amplitude
Shock	Mechanical durability	1,000 m/s^2 (approx. 100 G)
	Malfunction durability	500 m/s^2 (approx. 50 G)
Ambient temperature		Standard: -40° to 70°C (-40° to 158°F); Surface mount: -40° to 85°C (-40° to 185°F)
Humidity		45% to 85% RH
Service life	Mechanical	100 million operations min.
	Electrical	See “Characteristic Data”
Weight		Approx. 1.5 g (0.05 oz)

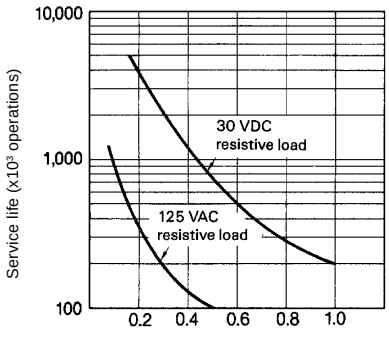
Note: Data shown are of initial value.

■ CHARACTERISTIC DATA

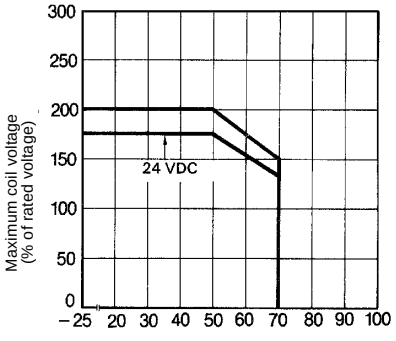
Maximum switching capacity



Electrical service life



Ambient temperature vs. maximum voltage (reference only)

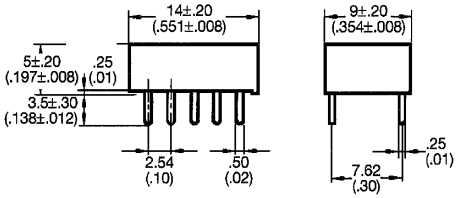


Dimensions

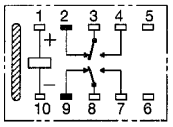
Unit: mm (inch)

■ NON-LATCHING

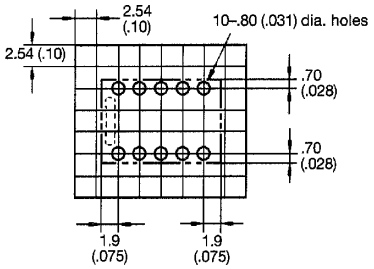
Standard



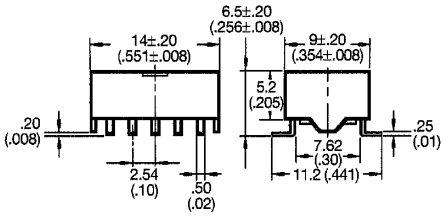
Terminal arrangement/ Internal connections
(Bottom view)



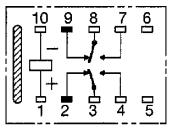
Mounting holes
(Bottom view, dimensional tolerance ±0.1)



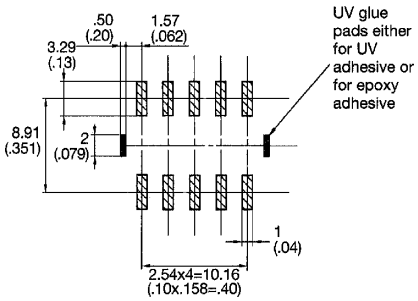
Surface mount



Terminal arrangement/ Internal connections
(Top view)

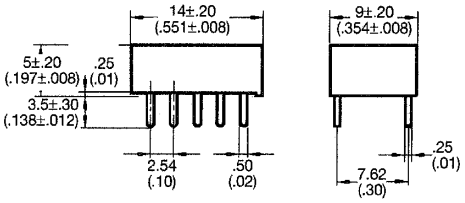


Mounting holes
(Top view)

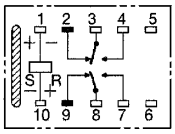


■ LATCHING

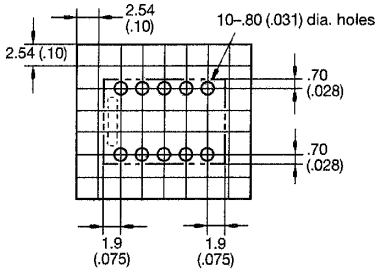
Single coil latching



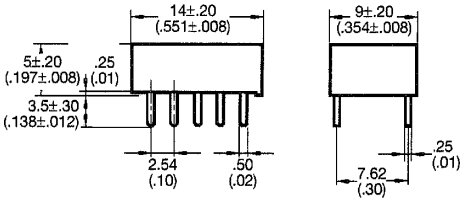
Terminal arrangement/ Internal connections
(Bottom view)



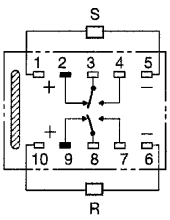
Mounting holes
(Bottom view, dimensional tolerance ±0.1)



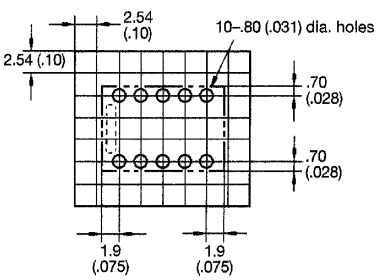
Dual coil latching



Terminal arrangement/ Internal connections
(Bottom view)



Mounting holes
(Bottom view, dimensional tolerance ±0.1)



Note: 1. ▨ and [ ] indicate mounting orientation marks.

↓ (0.016 in) applies to all dimensions.

■ APPROVALS

UL (File No. E41515)/CSA (File No. LR31928)

Type	Contact form	Coil ratings	Contact ratings
G6H-2	DPDT	1.50 to 48 VDC	1 A, 30 VDC
G6H-2-100			0.30 A, 110 VDC
G6HU-2			0.50 A, 125 VAC
G6HK-2			
G6HU-2-100			
G6HK-2-100			

Note: 1. The rated values approved by each of the safety standards (e.g., UL, CSA, TUV) may be different from the performance characteristics individually defined in this catalog.
2. In the interest of product improvement, specifications are subject to change.

■ HIGH TEMPERATURE USAGE

Use the G6H-2-100 for high-temperature applications. [After testing at 70°C (158°F), (28 VDC, 100 mA resistive load, open and closed 1 million times), the contact resistance was 1 Ω maximum for the G6H-2 and 200 mΩ maximum for the G6H-2-100].

OMRON

OMRON ELECTRONICS, INC.
One East Commerce Drive
Schaumburg, IL 60173
1-800-55-OMRON

OMRON CANADA, INC.
885 Milner Avenue
Scarborough, Ontario M1B 5V8
416-286-6465