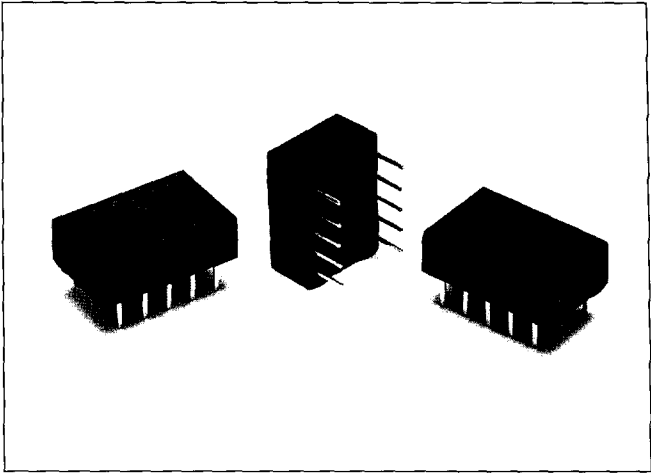


Ultracompact, Ultrasensitive DPDT Relay

- Compact size and low 5-mm profile.
- Low power consumption (140 mW for single-side stable, 100 to 300 mW for latching type).
- Low thermoelectromotive force.
- Low magnetic interference enables high-density mounting.
- Single- and double-winding latching types also available.
- UL and CSA approval.



Ordering Information

Classification		Single-side stable	Single-winding latching	Double-winding latching
DPDT	Plastic sealed	G6H-2100	G6HU-2100	G6HK-2100

**Note:** When ordering, add the rated coil voltage to the model number.  
Example: G6HK-2100 12 VDC

Rated coil voltage

Model Number Legend:

G6H   -   -     VDC  
          1      2      3      4

1. **Relay Function**  
None: Single-side stable  
U: Single-winding latching  
K: Double-winding latching
2. **Contact Form**  
2100: DPDT
3. **Classification**  
U: Ultrasonically cleanable
4. **Rated Coil Voltage**  
5, 6, 9, 12, 24 VDC

Specifications

■ Coil Ratings  
Single-side Stable Type (G6H-2100)

Rated voltage		5 VDC	6 VDC	9 VDC	12 VDC	24 VDC
Rated current		28.1 mA	23.3 mA	15.5 mA	11.7 mA	8.3 mA
Coil resistance		178 Ω	257 Ω	579 Ω	1,028 Ω	2,880 Ω
Coil inductance (H) (ref. value)	Armature OFF	0.065	0.11	0.24	0.43	1.2
	Armature ON	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, 150% at 70°C				170% of rated voltage at 23°C, 130% at 70°C
Power consumption		Approx. 140 mW				Approx. 200 mW

**Note:** 48 VDC (single-side stable) model is also available. Consult OMRON for details.

Single-winding Latching Type (G6HU-2100)

Rated voltage		5 VDC	6 VDC	9 VDC	12 VDC	24 VDC
Rated current		20 mA	16.7 mA	11.1 mA	8.3 mA	6.25 mA
Coil resistance		250 Ω	360 Ω	810 Ω	1,440 Ω	3,840 Ω
Coil inductance (H) (ref. value)	Armature OFF	0.11	0.14	0.33	0.60	1.6
	Armature ON	0.09	0.12	0.28	0.50	1.3

Relays

Must set voltage	75% max. of rated voltage	
Must reset voltage	75% min. of rated voltage	
Max. voltage	180% of rated voltage at 23°C, 140% at 70°C	
Power consumption	Approx. 100 mW	Approx. 150 mW

#### Double-winding Latching Type (G6HK-2100)

Rated voltage	5 VDC	6 VDC	9 VDC	12 VDC	24 VDC
Rated current	40 mA	33.3 mA	22.2 mA	16.7 mA	12.5 mA
Coil resistance	125 Ω	180 Ω	405 Ω	720 Ω	1,920 Ω
Coil inductance (H) (ref. value)	Armature OFF	0.042	0.065	0.16	0.3
	Armature ON	0.023	0.035	0.086	0.16
Must set voltage	75% max. of rated voltage				
Must reset voltage	75% min. of rated voltage				
Max. voltage	160% of rated voltage at 23°C, 130% at 70°C				130% of rated voltage at 23°C, 110% at 70°C
Power consumption	Approx. 200 mW				Approx. 300 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 ( $\cos\phi = 1$ )
Rated load	0.5 A at 125 VAC; 1 A at 30 VDC
Contact material	Ag (Au-clad)
Rated carry current	1 A
Max. switching voltage	125 VAC, 110 VDC
Max. switching current	1 A
Max. switching capacity	62.5 VA, 33 W
Min. permissible load	10 μA at 10 mVDC

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

#### ■ Characteristics

Contact resistance	50 mΩ max.
Operate (set) time	Single-side stable types: 3 ms max. (mean value: approx. 2 ms) Latching types: 3 ms max. (mean value: approx. 1.5 ms)
Release (reset) time	Single-side stable types: 2 ms max. (mean value: approx. 1 ms) Latching types: 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
Min. set/reset signal width	Latching type: 5 ms min. (at 23°C)
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	1,000 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 750 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage	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 <sup>2</sup> (approx. 100G) Malfunction: 500 m/s <sup>2</sup> (approx. 50G)
Life expectancy	Mechanical: 100,000,000 operations min. (at 36,000 operations/hr) Electrical: 200,000 operations min. (at 1,800 operations/hr)
Ambient temperature	Operating: -40°C to 70°C (with no icing) Storage: -40°C to 70°C (with no icing)
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 1.5 g



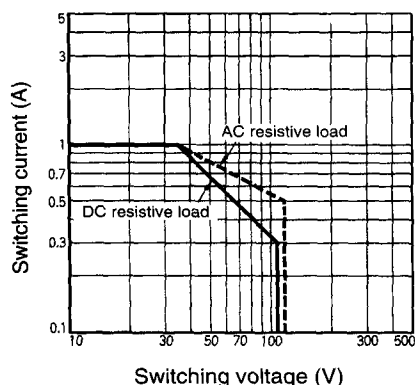
## ■ Approved Standards

UL114, UL478 (File No. E41515)/CSA C22.2 No.0, No.14 (File No. LR24825)

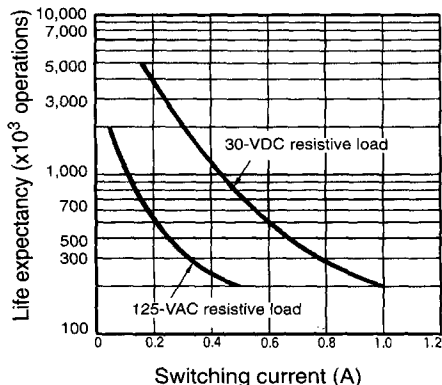
Model	Contact form	Coil ratings	Contact ratings
G6H(U/K)-2-U G6H(U/K)-2-100	DPDT	5 to 48 VDC	1 A, 30 VDC 0.3 A, 110 VDC 0.5 A, 125 VAC

## Engineering Data

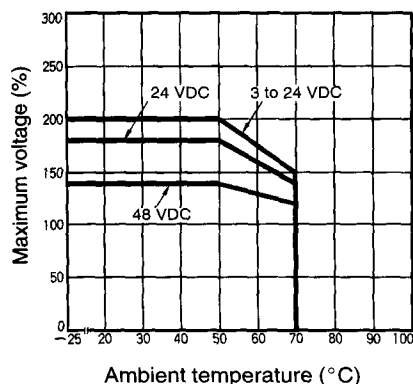
### Max. Switching Capacity



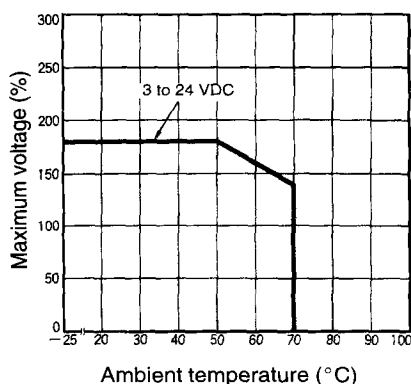
### Life Expectancy



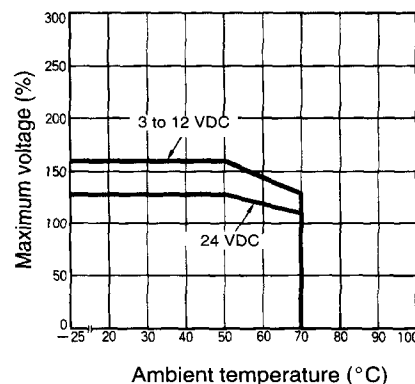
### Ambient Temperature vs. Maximum Voltage Single-side Stable (G6H-2100)





### Single-winding Latching (G6HU-2100)



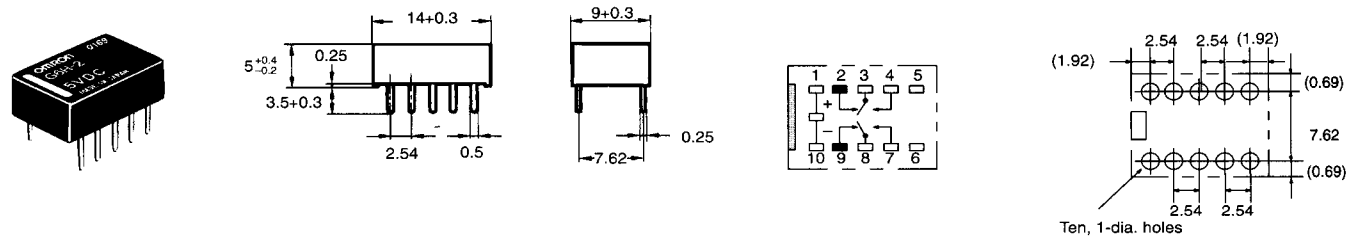
### Double-winding Latching (G6HK-2100)



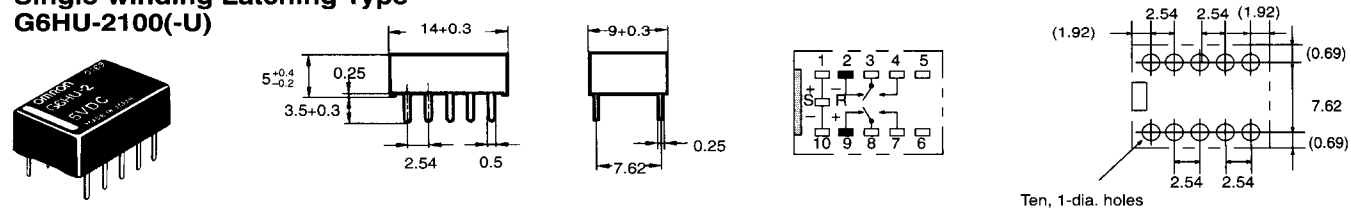
Dimensions

Note: 1. Orientation marks are indicated as follows:  

Single-side Stable Type  
G6H-2100(-U)



Single-winding Latching Type  
G6HU-2100(-U)



Double-winding Latching Type  
G6HK-2100(-U)

