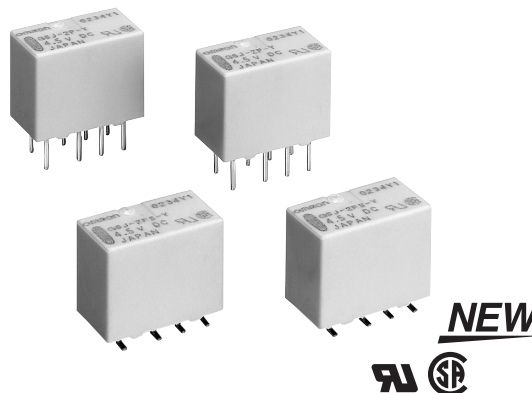


# Surface-mounting Relay G6J-Y

## Ultra-compact and Slim DPDT Relay

- Dimensions of 5.7 × 10.6 × 9 mm (W × L × H) represent a reduction of approximately 56% in mounting area compared with the OMRON G6S, for higher-density mounting.
- Dielectric strength of 1,500 VAC and an impulse withstand voltage of 2,500 V for 2 × 10 μs (conforms to North American Telcordia specifications (formerly Bellcore)).
- Conforms to FCC Part 68 (i.e., impulse withstand voltage of 1,500 V for 10 × 160 μs between coil and contacts and between contacts of the same polarity).
- Single-winding latching models to save energy.
- Conforms to UL60950 (File No. E41515)/CSA C22.2 No. 60950 (File No. LR31928).
- RoHS Compliant.



## Ordering Information

Item		Model	
Terminal	Contact form	Non-latching	Single coil latching
PCB through-hole	DPDT	G6J-2P-Y	G6JU-2P-Y
SMT Gull-wing		G6J-2FL-Y	G6JU-2FL-Y
SMT Shortened leads		G6J-2FS-Y	G6JU-2FS-Y

**Note:** 1. When ordering, add the rated coil voltage to the model number.  
Example: G6J-2P-Y DC12

└── Rated coil voltage

2. When ordering tape packing, add “-TR” to the model number.

Example: G6J-2P-Y-TR DC12

└── Tape packing

Be sure since “-TR” is not part of the relay model number, it is not marked on the relay case.

### Model Number Legend:

G6J    -          - Y -    DC   

1    2    3    4                      5

#### 1. Relay function

- None: Non-latching, standard
- U: Single-coil latching relay

#### 2. Contact form

- 2: DPDT

#### 3. Terminal shape

- P: PCB through-hole terminals
- FL: SMT Gull-wing
- FS: SMT shortened leads

#### 4. Packaging

- None: Tube packaging
- TR: Tape and reel packaging

#### 5. Rated Coil Voltage

- 3, 4.5, 5, 12, 24

## Application Examples

Communications equipment, measurement devices, computer peripheral devices, office automation equipment, and audio-visual products.

# Specifications

## ■ Contact Data

Rated load	0.3 A @ 125 VAC 1 A @ 30 VDC
Contact material	Ag (Au Clad)
Max. carry current	1 A
Max. operating voltage	125 VAC, 110 VDC
Max. operating current	1 A
Max. switching capacity	37.5 VA, 30 W
Min. permissible load (see note 1)	10m VDC, 10 $\mu$ A

**Note: 1.** This value was measured at a switching frequency of 120 operations/min and the criterion of contact resistance is 5% of the load impedance. This value may vary depending on the operating frequency, operating conditions, expected reliability level of the relay, etc. Always double-check relay suitability under actual load conditions.

## ■ Coil Data

### G6J-Y Standard, Non-latching (G6J-2P-Y, G6J-2FS-Y, G6J-2FL-Y)

Rated voltage (VDC)	Rated current (mA)	Coil resistance ( $\Omega$ )	Pick-up voltage	Drop-out voltage	Max. voltage	Power consumption (mW)
			% of rated voltage			
3	48.0	62.5	75% max.	10% min.	150% max.	140
4.5	32.6	137.9				
5	28.9	173.1				
12	12.3	976.8				
24	9.2	2,600.5				230

- Note: 1.** The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .  
**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 instantaneously.

### G6JU-Y Single coil, Latching (G6JU-2P-Y, G6JU-2FL-Y, G6JU-2FS-Y)

Rated voltage (VDC)	Rated current (mA)	Coil resistance ( $\Omega$ )	Set voltage	Reset voltage	Max. voltage	Power consumption (mW)
			% of rated voltage			
3	33.7	89.0	75% max.	75% max.	150% max.	100
4.5	22.0	204.3				
5	20.4	245.5				
12	9.0	1,329.2				

- Note: 1.** The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .  
**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 instantaneously.

## ■ Characteristics

Item	Standard non-latching relays		Single coil latching relays	
	G6J-2P-Y, G6J-2FS-Y, G6J-2FL-Y		G6JU-2P-Y, G6JU-2FS-Y, G6JU-2FL-Y	
<b>Contact resistance (initial)</b> (See note 1)	100 mΩ max.			
<b>Operating (set) time</b> (See note 2)	3 ms max. (approx. 1.6 ms)		3 ms max. (approx. 1.6 ms)	
<b>Release (reset) time</b> (See note 2)	3 ms max. (approx. 1.0 ms)		3 ms max. (approx. 0.9 ms)	
<b>Minimum set/reset pulse width</b>	---		10 ms min. (at 100% rated coil voltage)	
<b>Insulation resistance</b> (See note 3)	1,000 MΩ min. (at 500 VDC)			
<b>Dielectric strength</b>	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			
	750 VAC, 50/60 Hz for 1 min. between contacts of the same polarity			
<b>Surge withstand voltage</b>	2,500 VAC, 2 x 10 μs between coil and contacts			
	1,500 VAC, 10 x 160 μs between contacts of the same and different polarity			
<b>Vibration resistance</b>	<b>Mechanical durability</b>	10 to 55 Hz 2.5-mm single amplitude (5-mm double amplitude)		
	<b>Malfunction durability</b>	10 to 55 Hz 1.65-mm single amplitude (3.3-mm double amplitude)		
<b>Shock resistance</b>	<b>Mechanical durability</b>	1,000 m/s <sup>2</sup> (approx. 100G)		
	<b>Malfunction durability</b>	750 m/s <sup>2</sup> (approx. 75G)		
<b>Service life</b>	<b>Mechanical</b>	50,000,000 operations min. (at 36,000 operations/hour)		
	<b>Electrical</b>	100,000 operations min. (with a rated load at 1,800 operations/hour)		
<b>Ambient temperature</b>	-40 to 85°C (-40 to 185°F) with no icing or condensation			
<b>Humidity</b>	5% to 85% RH			
<b>Weight</b>	Approx. 1.0 g			

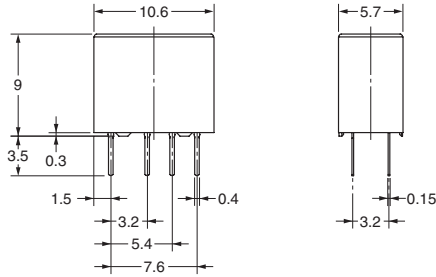
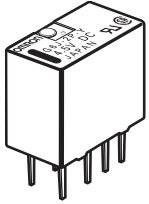
- Note:**
1. The contact resistance was measured with 10 mA at 1 VDC with a fall-of-potential method.
  2. Values in parentheses are typical values unless otherwise stated.
  3. The insulation resistance was measured with a 500-VDC Megger Tester applied to the same parts as those for checking the dielectric strength.
  4. The above values are initial values.

# Dimensions

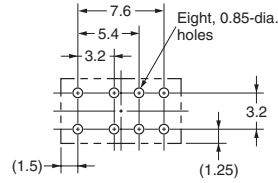
Unit: mm (inch)

Note: A tolerance of  $\pm 0.3$  ( $\pm 0.01$ ) applies to every dimension in the following drawings unless otherwise stated.

## G6J-2P-Y G6JU-2P-Y

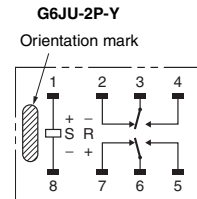
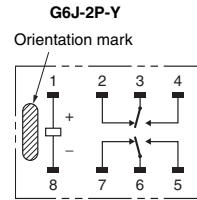


### Mounting Dimensions (Bottom View)\*

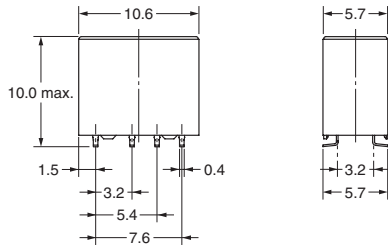
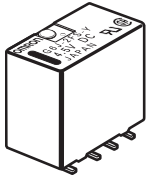


\*Tolerance  $\pm 0.1$  mm

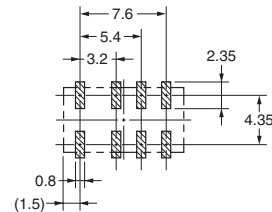
### Terminal Arrangement/ Internal Connections (Bottom View)



## G6J-2FS-Y G6JU-2FS-Y

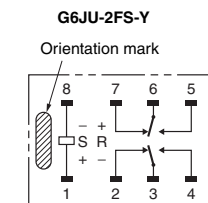
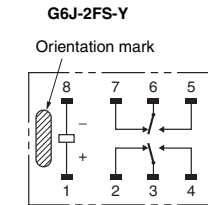


### Mounting Dimensions (Top View)\*

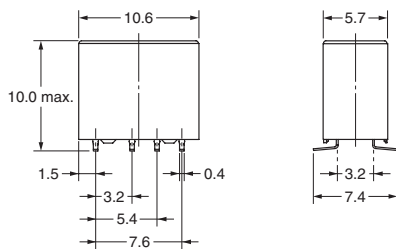
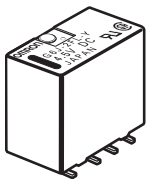


\*Tolerance  $\pm 0.1$  mm

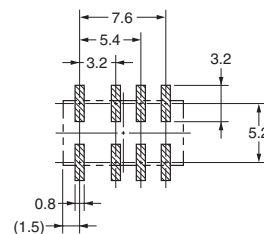
### Terminal Arrangement/ Internal Connections (Top View)



## G6J-2FL-Y G6JU-2FL-Y

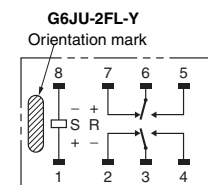
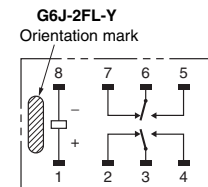


### Mounting Dimensions (Top View)\*



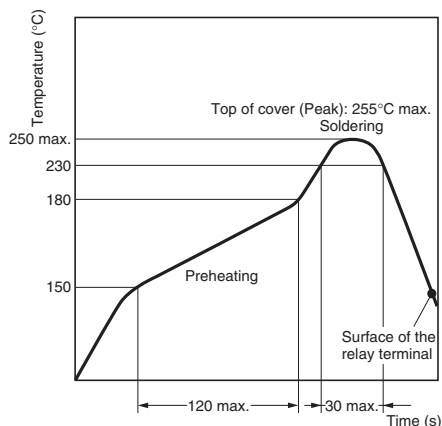
\*Tolerance  $\pm 0.1$  mm

### Terminal Arrangement/ Internal Connections (Top View)



# Recommended Soldering Method

## IRS Method (for Surface-mounting Terminal Relays)



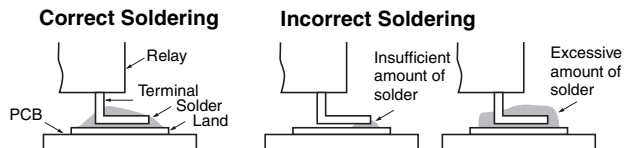
**Note:** Temperatures are given for the surface of the terminal.

## Approved Standards

UL approval:UL60950 (File No. E41515)  
 CSA approval:C22.2 No. 60950 (File No. LR31928)

Contact form	Coil rating	Contact rating
DPDT	G6J-2P-Y, 2FS-Y, 2FL-Y: 3 to 24 VDC	1 A at 30 VDC
	G6JU-2P-Y, 2FS-Y, 2FL-Y: 3 to 24 VDC	0.5 A at 60 VDC
		0.3 A at 125 VAC

- The thickness of cream solder to be applied should be between 150 and 200 μm on OMRON's recommended PCB pattern.
- In order to perform correct soldering, it is recommended that the correct soldering conditions be maintained as shown below on the left-hand side.



Visually check that the Relay is properly soldered.