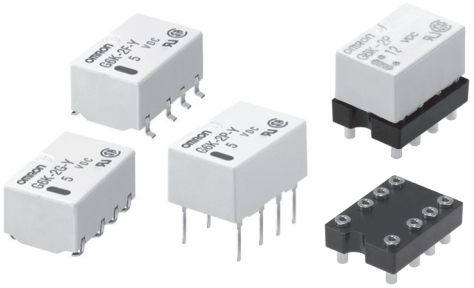
OMRON

G6K

PCB Signal Relay

PCB Signal Relay with a Small Size and Low Profile for Space Saving on Circuit Board



- Subminiature model as small as 5.2 (H) × 6.5 (W) × 10 (L) mm is ideal for high-density mounting (G6K(U)-2F(-Y)).
- Standard models achieve high sensitivity with a low power consumption of 100 mW.
- -Y models offer an impulse withstand voltage of 2,500 V for 2 × 10 µs by optimizing the distance between coil and contacts.
- Standard model conforms to UL/CSA standards, certified by BSI (EN62368-1).
- Standard models support a carry current of 2 A. Models with support for a contact switching current of 2 A are available. (-T1 type)
- Models with support for an ambient operating temperature of 125°C are available. (-T1 type)
- Products with surface-mount terminal-type sockets of through-hole terminal type are available to streamline relay replacement and reduce maintenance costs.

■Model Number Legend

G6K□-□□-□-□
1 2 3 4 5

1. Relay function
None : Single-side stable model
U : Single-winding latching model

2. Number of contact poles/Contact form
2 : 2-pole/DPDT (2c)

3. Terminal Shape
F : Outside-L surface mounting terminals
G : Inside-L surface mounting terminals
P : Through-hole terminals

4. Terminal Arrangement - Impulse withstand voltage

None	Terminal Arrangement	2.54 mm pitch
	Impulse withstand voltage	Between coil and contacts (1.5 kV for 10 × 160 µs)
Y	Terminal Arrangement	Between Coil-Contact Terminal 3.2 mm pitch Between Contact Terminal 2.2 mm pitch
	Impulse withstand voltage	Between coil and contacts (Conforms to 2.5 kV for 2 × 10 µs, 1.5kV for 10 × 160 µs)

5. Special Functions
None : Standard model
T1 : High temperature model

■Application Examples

- Telecommunication equipment
- Office automation machines
- Semiconductor test equipment
- Measuring instruments
- Building automation equipment
- Security equipment
- Air conditioning control equipment
- Industrial equipment

■Standard specifications

Contact type: Bifurcated crossbar (Au-Alloy)
Protective structure: Fully sealed

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■Ordering Information

●Surface Mounting Terminal Standard Models

Enclosure rating	Relay Function	Contact form	Tube Packing Model	Rated coil voltage	Minimum packing unit	Tape Packing Model	Rated coil voltage	Minimum packing unit	Minimum ordering unit (tape packing)
Fully sealed	Single-side stable	DPDT (2c)	G6K-2F	3 VDC	50 pcs/tube	G6K-2F-TR	3 VDC	900 pcs/reel	1,800 pcs/2 reels
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6K-2F-Y	3 VDC		G6K-2F-Y-TR	3 VDC		
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6K-2F-Y-T1	3 VDC		G6K-2F-Y-T1-TRS	3 VDC		900 pcs/1 reel
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6K-2G	3 VDC		G6K-2G-TR	3 VDC		1,800 pcs/2 reels
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6K-2G-Y	3 VDC		G6K-2G-Y-TR	3 VDC		
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
	Single-winding latching		G6KU-2F-Y	3 VDC		G6KU-2F-Y-TR	3 VDC		
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6KU-2G-Y	3 VDC		G6KU-2G-Y-TR	3 VDC		
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		
			G6KU-2F-Y-T1	3 VDC		G6KU-2F-Y-T1-TRS	3 VDC		900 pcs/1 reel
				4.5 VDC			4.5 VDC		
				5 VDC			5 VDC		
				12 VDC			12 VDC		
				24 VDC			24 VDC		

●Through-hole terminals Standard Models

Enclosure rating	Relay Function	Contact form	Model	Rated coil voltage	Minimum packing unit
Fully sealed	Single-side stable	DPDT (2c)	G6K-2P	3 VDC	50 pcs/tube
				4.5 VDC	
				5 VDC	
				12 VDC	
				24 VDC	
			G6K-2P-Y	3 VDC	
				4.5 VDC	
				5 VDC	
				12 VDC	
				24 VDC	
			G6K-2P-Y-T1	3 VDC	
				4.5 VDC	
				5 VDC	
				12 VDC	
				24 VDC	
	Single-winding latching		G6KU-2P-Y	3 VDC	
				4.5 VDC	
				5 VDC	
				12 VDC	
				24 VDC	
			G6KU-2P-Y-T1	3 VDC	
				4.5 VDC	
				5 VDC	
				12 VDC	
				24 VDC	

Note 1. When ordering, add the rated coil voltage to the model number.
Example: G6K-2F 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.
Note 2. The -TR and -TRS at the end of model numbers are not marked on the units.
Note 3. Surface mounting terminal (SMT) models are shipped in a moisture-proof package. Through-hole terminal models do not require moisture-proof packaging and are therefore shipped in a non-moisture-proof package.

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■Ratings

●Coil: Single-side Stable Models

Special Functions	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			
Standard	3 VDC	33.0	91	80% max.	10% min.	150%	Approx. 100
	4.5 VDC	23.2	194				
	5 VDC	21.1	237				
	12 VDC	9.1	1,315				
	24 VDC	4.6	5,220				
High temperature model	3 VDC	46.6	64	75% max.			Approx. 140
	4.5 VDC	31.1	144				
	5 VDC	28	178				
	12 VDC	11.6	1,028				
	24 VDC	5.8	4,138				

Note 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.
Note 2. The operating characteristics are measured at a coil temperature of 23°C.
Note 3. The maximum voltage is the highest voltage that can be imposed on the relay coil instantaneously.
Note 4. Apply only the rated voltage to coils.

●Contacts

Item	Load	Resistive load
Rated load	Standard	0.3 A at 125 VAC, 1 A at 30 VDC
	High temperature model	0.5 A at 125 VAC 2 A at 30 VDC
Rated carry current		2 A
Max. switching voltage		125 VAC, 60 VDC
Max. switching current	Standard	1 A
	High temperature model	2 A

●Coil: Single-winding Latching Models

Special Functions	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			
Standard	3 VDC	33.0	91	75% max.	75% max.	150%	Approx. 100
	4.5 VDC	23.2	194				
	5 VDC	21.1	237				
	12 VDC	9.1	1,315				
	24 VDC	4.6	5,220				
High temperature model	3 VDC	46.6	64				Approx. 140
	4.5 VDC	31.1	144				
	5 VDC	28	178				
	12 VDC	11.6	1,028				
	24 VDC	5.8	4,138				

Note 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.
Note 2. The operating characteristics are measured at a coil temperature of 23°C.
Note 3. The maximum voltage is the highest voltage that can be imposed on the relay coil instantaneously.
Note 4. Apply only the rated voltage to coils.

■Characteristics

Item	Special Functions / Relay Function	Standard: Single-side stable models (G6K-2F, G6K-2G, G6K-2P)	Standard: Single-side stable models (G6K-2F-Y, G6K-2G-Y, G6K-2P-Y)	Standard: Single-winding latching models (G6KU-2F-Y, G6KU-2G-Y, G6KU-2P-Y)	High temperature model: Single-side stable models (G6K-2F-Y-T1, G6K-2P-Y-T1)	High temperature model: Single-winding latching models (G6KU-2F-Y-T1, G6KU-2P-Y-T1)
Contact resistance *1		100 mΩ max.				
Operating time/Set time *2		3 ms max. (Approx. 1.4 ms)			3 ms max. (Approx. 1.4 ms)	3 ms max. (Approx. 1.2 ms)
Release time/Reset time *2		3 ms max. (Approx. 1.3 ms)			3 ms max. (Approx. 1.3 ms)	3 ms max. (Approx. 1.2 ms)
Minimum set/reset signal width		–		10 ms	–	10 ms
Insulation resistance *3		1,000 MΩ min. (at 500 VDC)				
Dielectric strength	Between coil and contacts	1,500 VAC, 50/60 Hz for 1 min				
	Between contacts of different polarity	1,000 VAC, 50/60 Hz for 1 min				
	Between contacts of the same polarity	750 VAC, 50/60 Hz for 1 min				
Impulse withstand voltage	Between coil and contacts	1,500 V (10 × 160 μs)	2,500 V (2 × 10 μs), 1,500 V (10 × 160 μs)			
	Between contacts of different polarity	1,500 V (10 × 160 μs)				
	Between contacts of the same polarity					
Vibration resistance	Destruction	10-55-10 Hz, 2.5 mm single amplitude (5 mm double amplitude) and 55 to 500 Hz, 300 m/s²				
	Malfunction	10-55-10 Hz, 1.65 mm single amplitude (3.3 mm double amplitude) and 55 to 500 Hz, 200 m/s²				
Shock resistance	Destruction	1,000 m/s²				
	Malfunction	750 m/s²				
Durability	Mechanical	50,000,000 operations min. (at 36,000 operations/hour)				
	Electrical	100,000 operations min. (0.3 A at 125 VAC/1 A at 30 VDC with a rated load at 1,800 operations/hour)			100,000 operations min. (0.5 A at 125 VAC/2 A at 30 VDC with a rated load at 1,800 operations/hour) 100,000 operations min. (0.5 A at 125 VAC/1 A at 30 VDC 125°C with a rated load at 1,800 operations/hour)	
Failure rate (P level) *4		10 μA at 10 mVDC				
Ambient operating temperature		-40 to +85°C (with no icing or condensation)			-40 to +125°C (with no icing or condensation)	
Ambient operating humidity		5% to 85%				
Weight		Approx. 0.7 g				

Note: The above values are initial values.

*1. The contact resistance was measured with 10 mA at 1 VDC with a voltage-drop method.
*2. Values in parentheses are actual values.
*3. The insulation resistance was measured with a 500 VDC megohmmeter applied to the same parts as those used for checking the dielectric strength.
*4. This value was measured at a switching frequency of 120 operations/min and the criterion of contact resistance is 50 Ω. This value may vary depending on the switching frequency and operating environment. Always double-check relay suitability under actual operating conditions.

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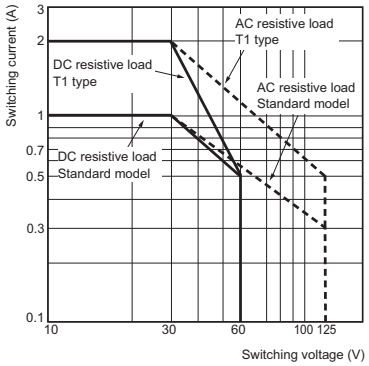
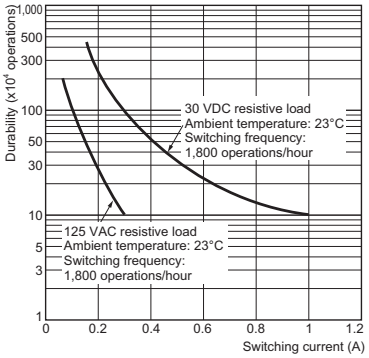
■Engineering Data

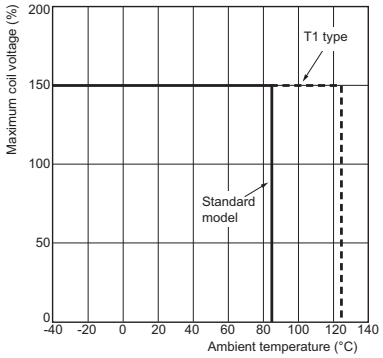
●Maximum Switching Capacity



●Durability

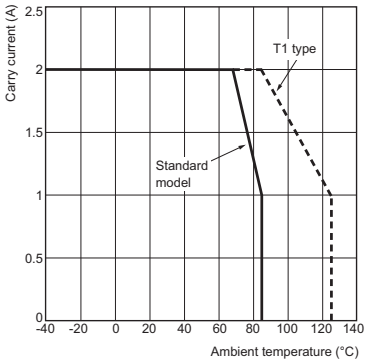


●Ambient Temperature vs. Maximum Coil Voltage

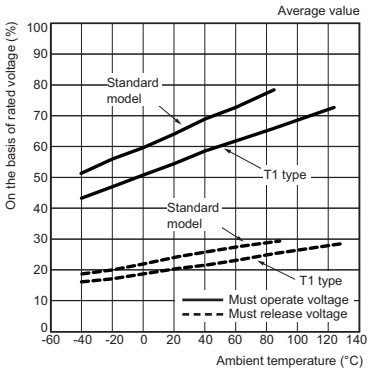


Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

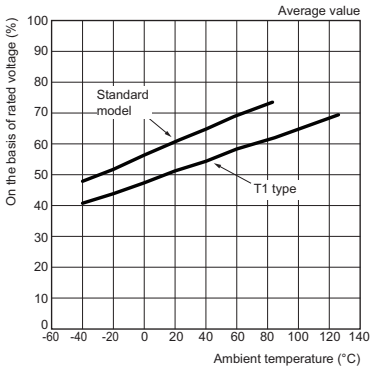
●Ambient Temperature vs. Carry Current



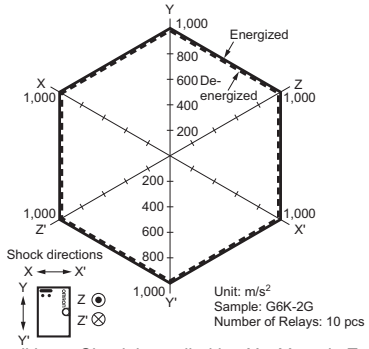
●Ambient Temperature vs. Must Operate or Must Release Voltage G6K-2G(F/P)(-Y), G6K-2F(P)-Y-T1



●Ambient Temperature vs. Must Set or Must Reset Voltage G6KU-2G(F/P)-Y, G6KU-2F(P)-Y-T1

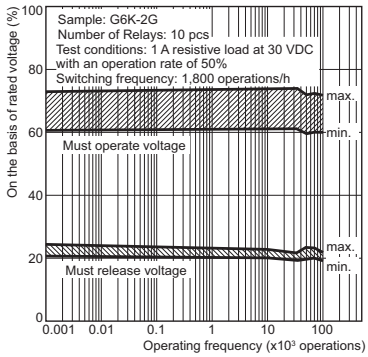


●Shock Malfunction

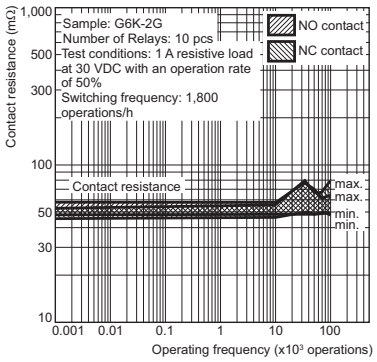


Conditions: Shock is applied in ±X, ±Y, and ±Z directions three times each with and without energizing the Relays to check the number of contact malfunctions.

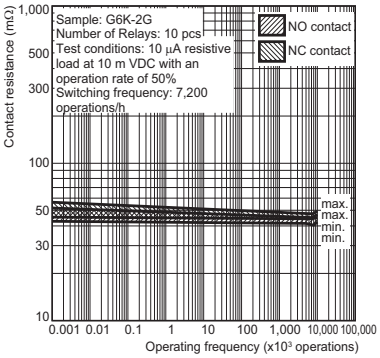
●Electrical Durability (with Must Operate and Must Release Voltage) *1 G6K-2G (F/P), G6K-2G (F/P)-Y



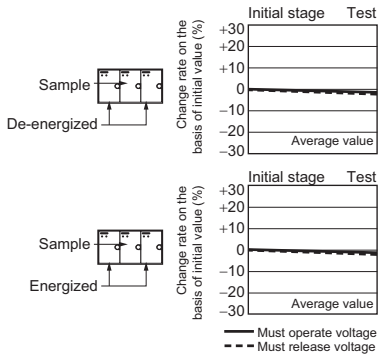
●Electrical Durability (Contact Resistance) *1 G6K-2G (F/P), G6K-2G (F/P)-Y



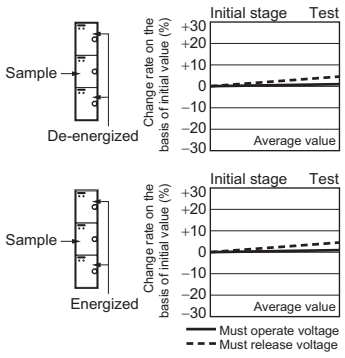
●Contact Reliability Test *1, *2 G6K-2G (F/P), G6K-2G (F/P)-Y



●Mutual Magnetic Interference G6K-2G (F/P), G6K-2G (F/P)-Y



●Mutual Magnetic Interference G6K-2G (F/P), G6K-2G (F/P)-Y



*1. The test was conducted at an ambient temperature of 23°C.
*2. The contact resistance data are periodically measured reference values and are not values from each monitoring operation. Contact resistance values will vary according to the switching frequency and operating environment, so be sure to check operation under the actual operating conditions before use.

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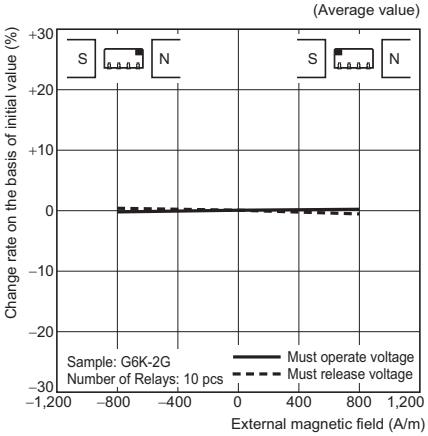
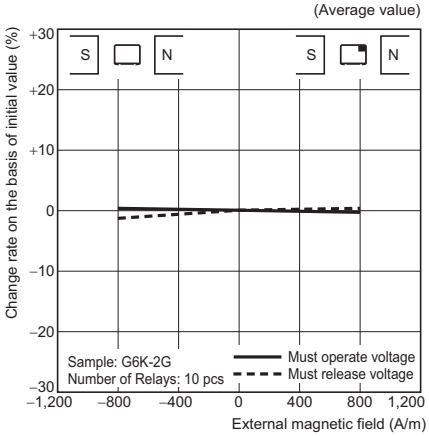
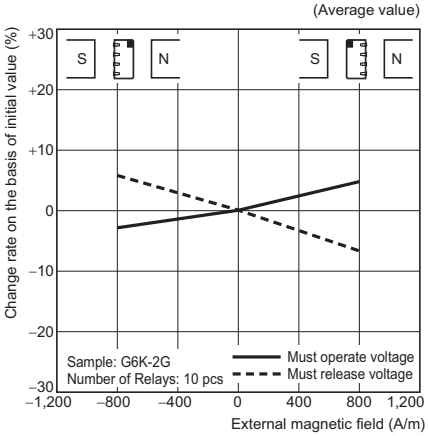
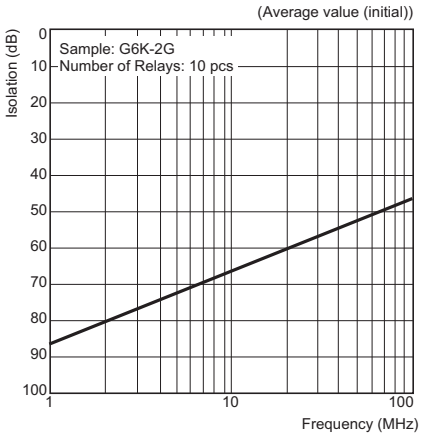
●**External Magnetic Interference**
G6K-2G (F/P), G6K-2G (F/P)-Y



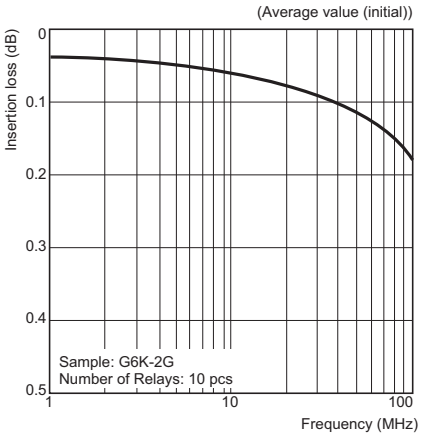




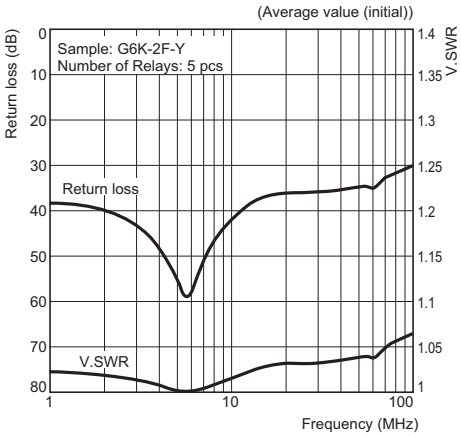
●**High-frequency Characteristics (Isolation) *1, *2**
G6K-2G (F/P), G6K-2G (F/P)-Y



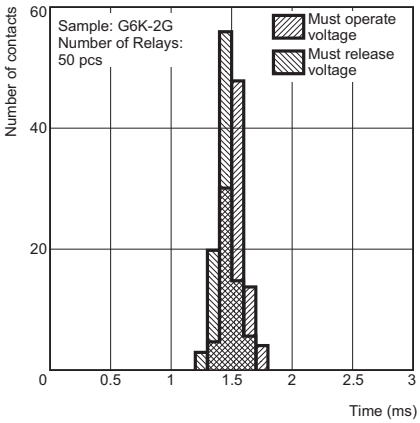
●**High-frequency Characteristics (Insertion Loss)) *1, *2**
G6K-2G (F/P), G6K-2G (F/P)-Y



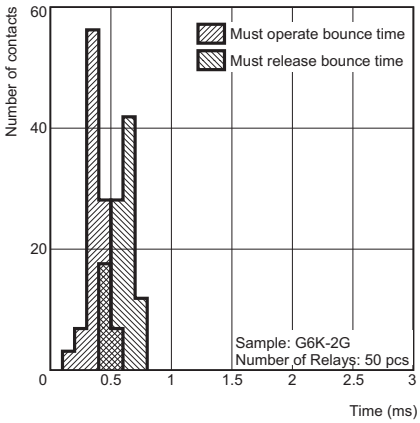
●**High-frequency Characteristics (Return Loss) *1, *2**
G6K-2G (F/P),G6K-2G (F/P)-Y



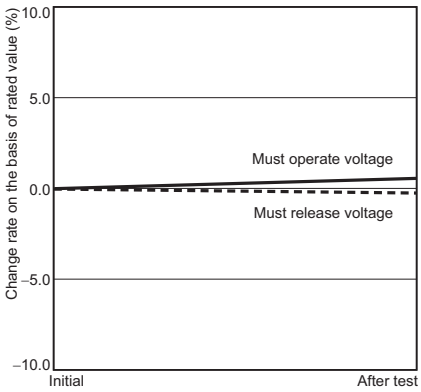
●**Must Operate and Must Release Time Distribution *1**
G6K-2G (F/P), G6K-2G (F/P)-Y



●**Must Operate and Must Release Bounce Time Distribution *1**
G6K-2G (F/P) , G6K-2G (F/P)-Y



●**Vibration Resistance**
G6K-2G (F/P), G6K-2G (F/P)-Y



*1. The tests were conducted at an ambient temperature of 23°C.
*2. High-frequency characteristics depend on the PCB to which the Relay is mounted. Always check these characteristics including endurance in the actual machine before use.

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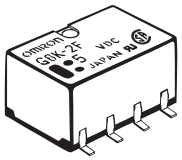
■Dimensions

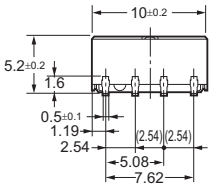
CAD Data marked products, 2D drawings and 3D CAD models are available.
For CAD information, please visit our website, which is noted on the last page.

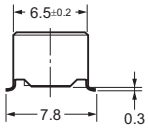
(Unit: mm)

●Single-side Stable

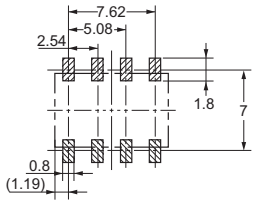
G6K-2F



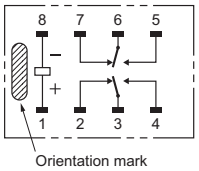




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)

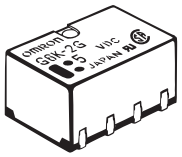


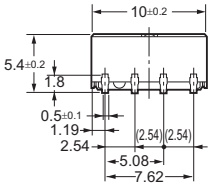
Note: Check carefully the coil polarity of the Relay.

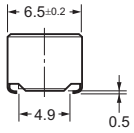
CAD Data

Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

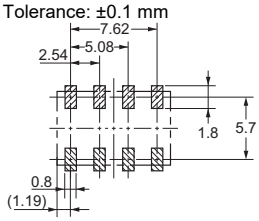
G6K-2G



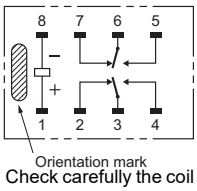




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)



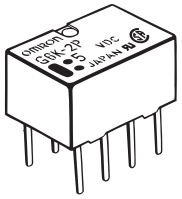
Note: Check carefully the coil polarity of the Relay.

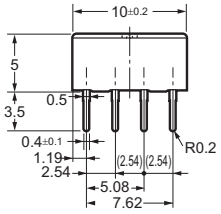
CAD Data

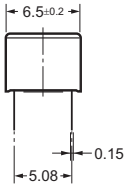
Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

G
6
K

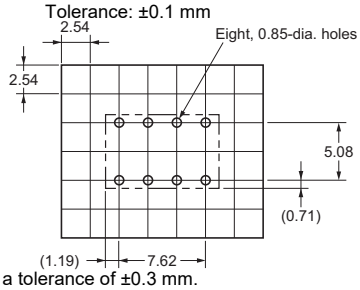
G6K-2P



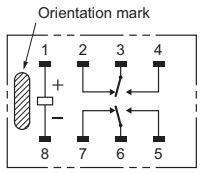




PCB Mounting Holes (Bottom VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (Bottom VIEW)

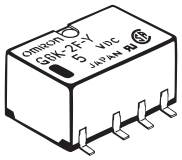


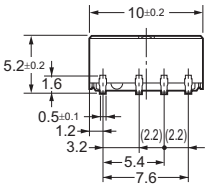
Note: Check carefully the coil polarity of the Relay.

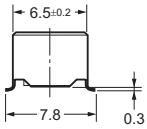
CAD Data

Note: Each value has a tolerance of ±0.3 mm.

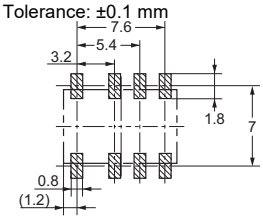
G6K-2F-Y
G6K-2F-Y-T1



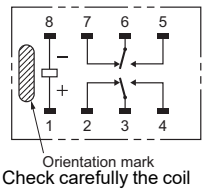




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)

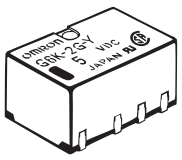


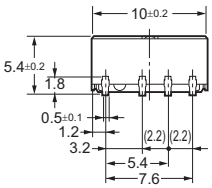
Note: Check carefully the coil polarity of the Relay.

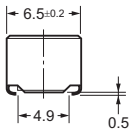
CAD Data

Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

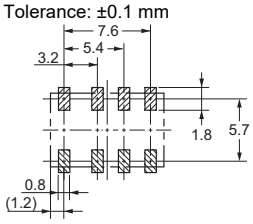
G6K-2G-Y



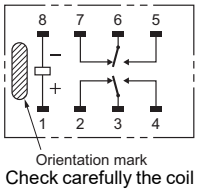




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)

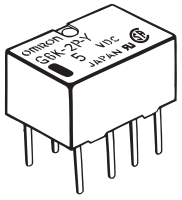


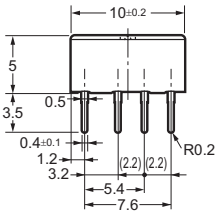
Note: Check carefully the coil polarity of the Relay.

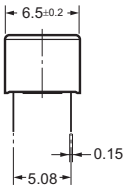
CAD Data

Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

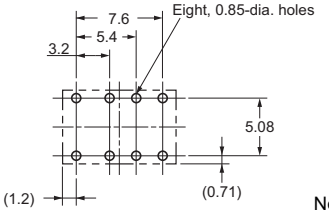
G6K-2P-Y
G6K-2P-Y-T1



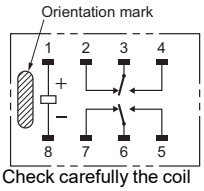




PCB Mounting Holes (BOTTOM VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (BOTTOM VIEW)



Note: Check carefully the coil polarity of the Relay.

CAD Data

Note: Each value has a tolerance of ±0.3 mm.

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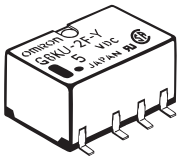
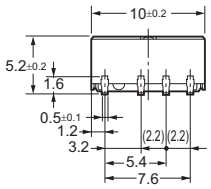
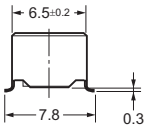
●Single-winding Latching

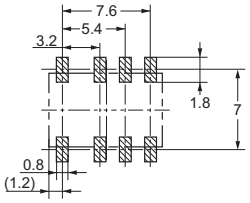
G6KU-2F-Y
G6KU-2F-Y-T1



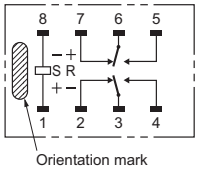




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)

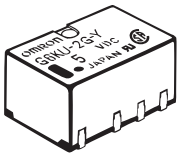


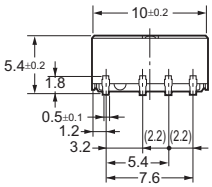
Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

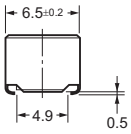
Note: Check carefully the coil polarity of the Relay.

CAD Data

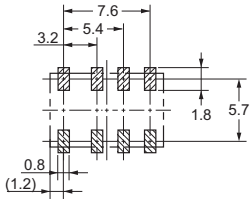
G6KU-2G-Y



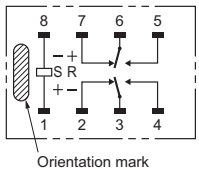




Mounting Dimensions (TOP VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (TOP VIEW)

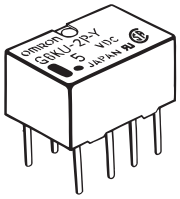


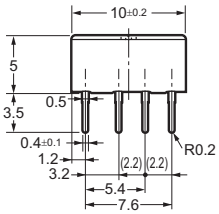
Note 1. Each value has a tolerance of ±0.3 mm.
Note 2. The coplanarity of the terminals is 0.1 mm max.

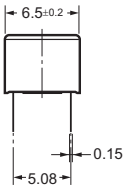
Note: Check carefully the coil polarity of the Relay.

CAD Data

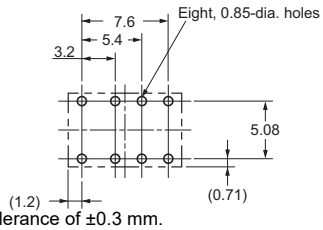
G6KU-2P-Y
G6KU-2P-Y-T1



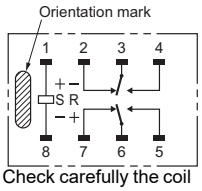




PCB Mounting Holes (BOTTOM VIEW)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections (BOTTOM VIEW)



Note: Each value has a tolerance of ±0.3 mm.

Note: Check carefully the coil polarity of the Relay.

CAD Data

G6K

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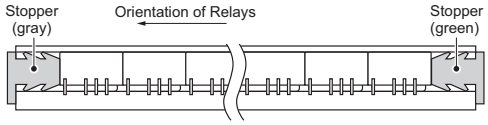
■Tube Packing and Tape Packing

Surface mounting terminal (SMT) standard models are shipped in moisture-proof package, and Through-hole terminals do not require moisture proof packaging and therefore shipped in non-moisture-proof package.
Please refer to "Correct Use" for handling after opening moisture-proof packaging for Surface mounting terminal (SMT) models.

(1) Tube Packing

- Relays in tube packing are arranged so that the orientation mark of each Relay in on the left side. Fifty Relays are packed on one tube.
  Be sure not to make mistakes in Relay orientation when mounting the Relay to the PCB.

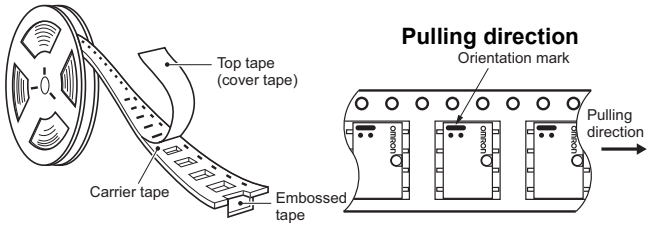


Tube length: 520 mm (stopper not included)
No. of Relays per tube: 50 pcs

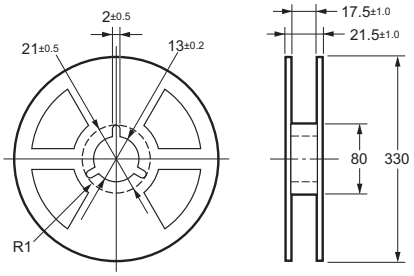
(2) Tape Packing (Surface Mounting Terminal Models)

- When ordering Relays in tape packing, add the prefix “-TR” or “-TRS” to the model number, otherwise the Relays in tape packing will be provided.
  Relays per Reel: 900 pcs
  Minimum packing unit (TR): 2 reels (1,800 pcs)
  Minimum packing unit (TRS): 1 reel (900 pcs)

1. Direction of Relay Insertion

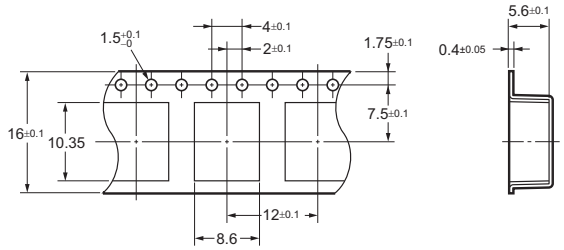


2. Reel Dimensions

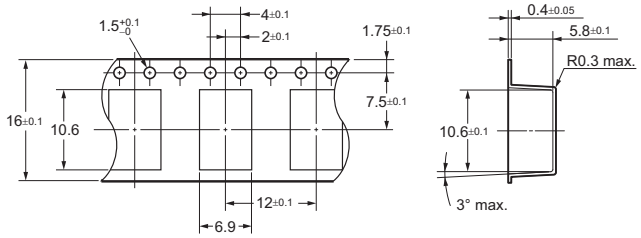


3. Carrier Tape Dimensions

G6K-2F, G6K-2F-Y, G6KU-2F-Y, G6K-2F-Y-T1, G6KU-2F-Y-T1



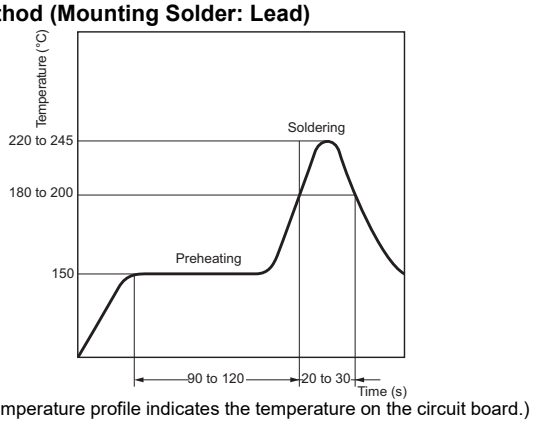
G6K-2G, G6K-2G-Y, G6KU-2G-Y



■Recommended Soldering Method

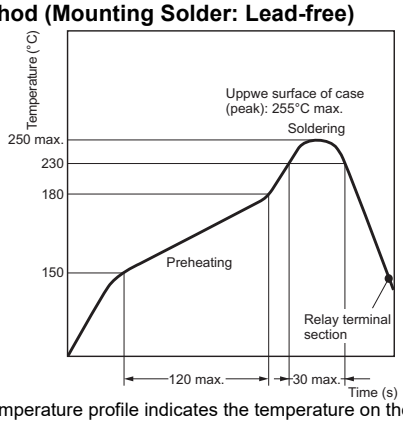
●IRS Method (for Surface-mounting Terminal Relays)

(1) IRS Method (Mounting Solder: Lead)



(The temperature profile indicates the temperature on the circuit board.)

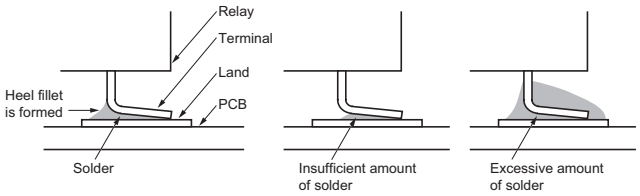
(2) IRS Method (Mounting Solder: Lead-free)



(The temperature profile indicates the temperature on the PCB.)

- The thickness of cream solder to be applied should be within a range 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 side.

Correct Soldering **Incorrect Soldering**



Visually check that the Relay is properly soldered.

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Connecting Sockets (Sold Separately)

■Model Number Legend

P6K-□□-□
1 2 3

1. The number of terminals
08: 8 terminals

2. Terminal Shape
F : surface mounting terminals

3. Terminal Arrangement
None :Terminal Arrangement 2.54 mm pitch
Y : Between Coil-Contact Terminal 3.2 mm, Between Contact Terminal 2.2 mm pitch

■Standard specifications

Terminal surface processing: Gold plating

■Ordering Information

When ordering the following models, place your order in minimum packing units.

Applicable relay	Model	Minimum ordering unit
G6K-2P	**P6K-08F**	900 pcs/reel
G6K-2P-Y **G6KU-2P-Y** **G6K-2P-Y-T1** **G6KU-2P-Y-T1**	**P6K-08F-Y**	

Note 1. The package format is tape packing.
When ordering, add "-TR" to the end of the model number.

■Ratings *1

Model / Item	**P6K-08F(-Y)**
Rated carry current	1A
Rated insulation voltage	50 VDC

■Characteristics *1

Model / Item	**P6K-08F(-Y)**
Dielectric strength	500 VAC, rms 1 min
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Contact resistance *2 *3	30 mΩ max.
Ambient operating temperature	-40 to +85°C (with no icing or condensation)
Ambient operating humidity	25% to 85%

Note: The above values are the initial values.

*1. For items where the standard values or conditions differ between G6K (relay) and P6K (socket), use within the conditions specified for the socket.
*2. Use the voltage-drop method with a current of 100 mA applied.
*3. This is the value for one terminal.

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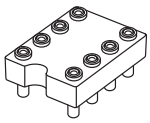
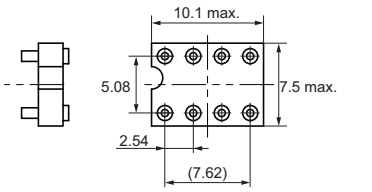
■Dimensions

CAD Data marked products, 2D drawings and 3D CAD models are available.
For CAD information, please visit our website, which is noted on the last page.

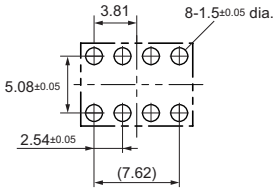
(Unit: mm)

For the G6K-2P
P6K-08F

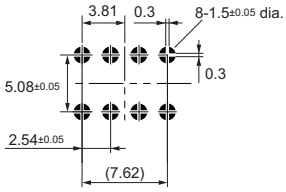


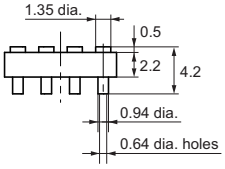


Mounting Dimensions
(TOP VIEW)



Mask
(TOP VIEW)

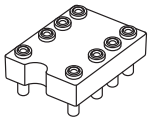


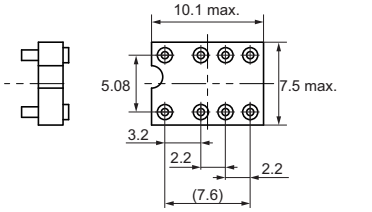


Note 1. The coplanarity of the terminals is 0.15 mm max.

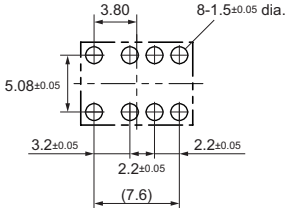
CAD Data

For the G6K(U)-2P-Y(-T1)
P6K-08F-Y

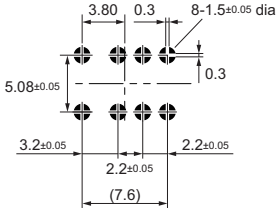


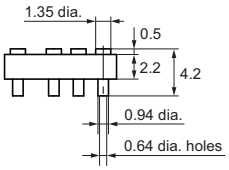


Mounting Dimensions
(TOP VIEW)



Mask
(TOP VIEW)





Note 1. The coplanarity of the terminals is 0.15 mm max.

CAD Data

G6K

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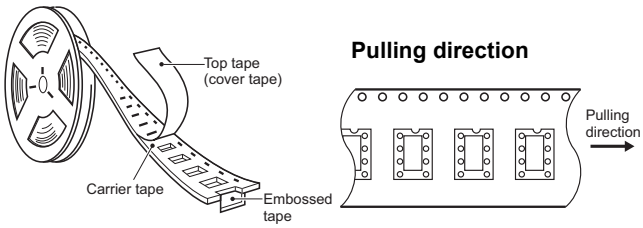
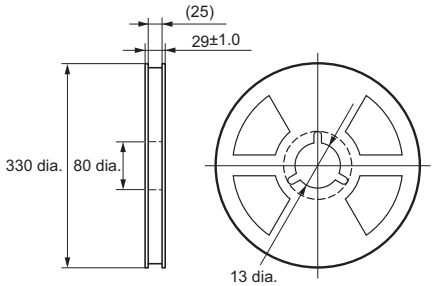
■Tape Packing

P6K-08F
P6K-08F-Y

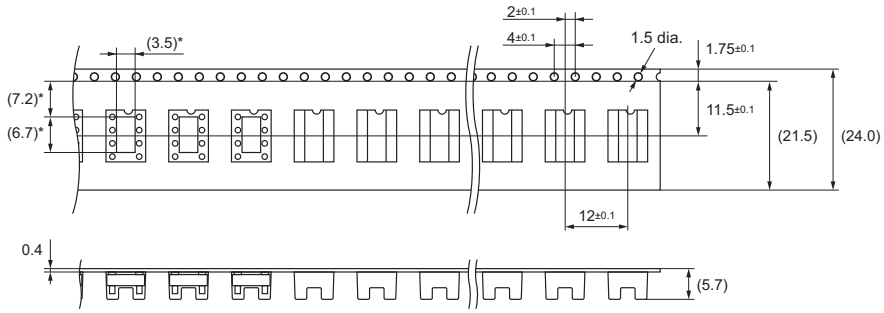
1. Direction of Insertion



2. Reel Dimensions



3. Carrier Tape Dimensions

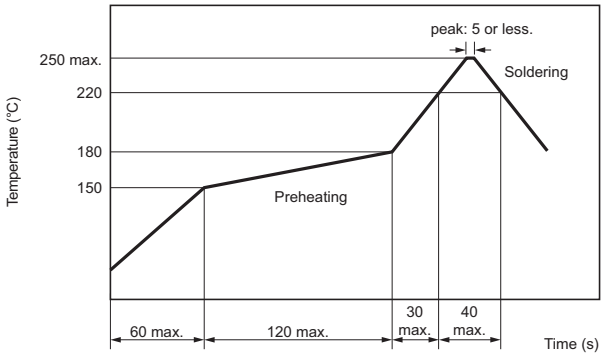


Note 1. The dimensions marked with "*" indicate the recommended suction area while mounting.

■Recommended Soldering Method

●IRS Method (for Surface-mounting Terminal Relays)

(1) IRS Method (Mounting Solder: Lead-free)



- The recommended number of reflow soldering is one. If planning to perform two times or more, please consult with OMRON.
- The thickness of the cream solder to be applied is recommended at 150 µm.
- It is recommended to use OMRON's PCB manufacturing process for land patterns.

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■Approved Standards

UL recognized: UL1950 (File No.E41515)
CSA certified: C22.2 No. 950 (File No.LR31928)

Contact form	Model	Coil rating	Contact rating	Number of test operations
DPDT (2c)	G6K-2G(F/P) G6K(U)-2G(F/P)-Y	3 to 24 VDC	2 A, 30 VDC at 40°C 0.5 A, 60 VDC at 40°C 0.3 A, 125 VAC at 40°C	6,000
DPDT (2c)	G6K(U)-2F(P)-Y-T1	3 to 24 VDC	2 A, 30 VDC at 40°C 1 A, 30 VDC at 85°C	100,000
			0.5 A, 125 VAC at 85°C	6,000

BSI certified (EN62368-1) (File No. VC669855)

Contact form	Isolation category	Voltage
DPDT (2c)	Basic Insulation	125 VAC

Note 1. This certification is for the G6K unit alone. Certification for the socket has not been obtained.

■Precautions

●Please refer to "PCB Relays Common Precautions" for correct use.

Correct Use

●Long-term Continuously ON Contacts

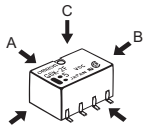
- Using the Relay in a circuit where the Relay will be ON continuously for long periods (without switching) can lead to unstable contacts because the heat generated by the coil itself will affect the insulation, causing a film to develop on the contact surfaces. We recommend using a latching relay (magnetic-holding relay) in this kind of circuit. If a single-side stable model must be used in this kind of circuit, we recommend using a fail-safe circuit design that provides protection against contact failure or coil burnout.

●Relay Handling

- Use the Relay as soon as possible after opening the moistureproof package. (As a guideline, use the Relay within one week at 30°C or less and 60% RH or less.) If the Relay is left for a long time after opening the moisture-proof package, the appearance may suffer and seal failure may occur after the solder mounting process. To store the Relay after opening the moisture-proof package, place it into the original package and sealed the package with adhesive tape.
- When washing the product after soldering the Relay to a PCB, use a water-based solvent or alcohol-based solvent, and keep the solvent temperature to less than 40°C. Do not put the Relay in a cold cleaning bath immediately after soldering.

●Claw Securing Force During Automatic Mounting

- During automatic insertion of Relays, make sure to set the securing force of each claw to the following so that the Relays characteristics will be maintained.



Direction A: 1.96 N max.
Direction B: 4.90 N max.
Direction C: 1.96 N max.

●Environmental Conditions During Operation, Storage, and Transportation

- Protect the Relay from direct sunlight and keep the Relay under normal temperature, humidity, and pressure.

●Latching Relay Mounting

- Make sure that the vibration or shock that is generated from other devices, such as relays in operation, on the same panel and imposed on the Latching Relay does not exceed the rated value, otherwise the Latching Relay that has been set may be reset or vice versa. The Latching Relay is reset before shipping. If excessive vibration or shock is imposed, however, the Latching Relay may be set accidentally. Be sure to apply a reset signal before use.

●Voltage Applied to Coils

- The Relays will operate at the must-operate voltage or greater, but the rated voltage must be applied to the coils in order to obtain the specified performance.

●Changes in Must-operate Voltage Due to Coil Temperature

- Be sure to check operation under the actual application conditions as it may not be possible to satisfy the catalog values for must-operate voltages during a hot start or when the ambient temperature exceeds 23°C. Coil resistance is increased by a rise in temperature causing the must-operate voltage to increase. The resistance thermal coefficient of a copper wire is approximately 0.4% per 1°C, and the coil resistance also increases at this percentage. The catalog values for the must-operate voltage and must-release voltage are given for a coil temperature of 23°C.

●Maximum Allowable Voltage

- The maximum allowable voltage of the coil can be obtained from the coil temperature increase and the heat-resisting temperature of coil insulating sheath material. (Exceeding the heat-resisting temperature may result in burning or short-circuiting.) The maximum allowable voltage also involves important restrictions which include the following:
  - Must not cause thermal changes in or deterioration of the insulating material.
  - Must not cause damage to other control devices.
  - Must not cause any harmful effect on people.
  - Must not cause fire.

  Therefore, be sure to use the maximum allowable voltage beyond the value specified in the catalog.
- As a rule, the rated voltage must be applied to the coil. A voltage exceeding the rated value, however, can be applied to the coil provided that the voltage is less than the maximum allowable voltage. It must be noted that continuous voltage application to the coil will cause a coil temperature increase thus affecting characteristics such as electrical life and resulting in the deterioration of coil insulation.

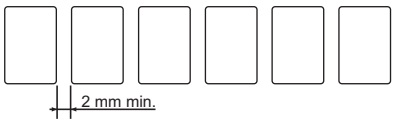
●Coating

- The Relay mounted on the PCB may be coated or washed but do not apply silicone coating or detergent containing silicone, otherwise the silicone coating or detergent may remain on the surface of the Relay.

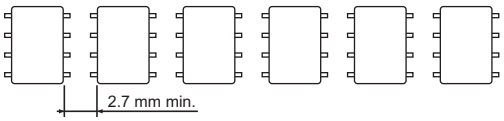
●PCB Mounting

- If two or more Relays are closely mounted with the long sides of the Relays facing each other and soldering is performed with infrared radiation, the solder may not be properly exposed to the infrared rays. Be sure to keep the proper distance between adjacent Relays as shown below.

G6K-2G



G6K-2F



- Two or more Relays may be closely mounted with the short sides of the Relays facing each other.

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●Socket Washing

- Do not wash the entire socket, as washing may compromise socket performance, such as causing contact failure.
  When washing after mounting the PCB, perform cleaning only on the soldered sections.

●Precautions When Replacing a Relay

- Improper insertion or removal, such as forcing the relay into the socket backwards or at an angle, may cause deformation of the relay terminals, prevent the relay from being removed, or damage the socket.

●Manual Socket Soldering Rework

- When performing manual rework with a soldering iron after mounting this product on the PCB, ensure that all work is performed within the conditions listed in the specifications.
  When performing manual rework with a soldering iron, do not use excessive solder or flux.
  Solder wicking or flux oozing may cause poor connection or malfunction.

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Regional Contact

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Korea
https://components.omron.com/kr

Japan
https://components.omron.com/jp

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