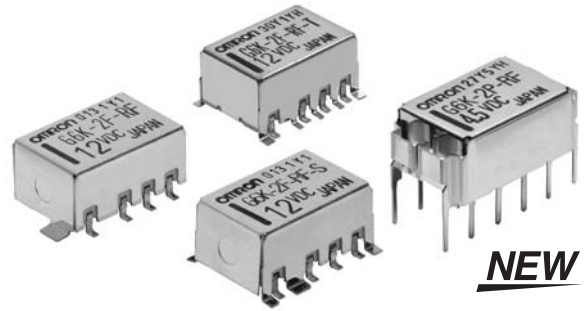


G6K(U)-2F(P)-RF(-S, -T)

Surface-mounting High-frequency Relay

Surface-mounting, 1-GHz-Band/ 3-GHz-Band, Miniature, DPDT, High-frequency Relay

- Superior high-frequency characteristics (at 1 GHz), such as an isolation of 20 dB min. between contacts of the same polarity of 30 dB min. between contacts of different polarity with an insertion loss of 0.2 dB max.
- Miniaturized to 10.3 × 6.9 × 5.4 mm (L × W × H).
- Rated power consumption of 100 mW with high sensitivity
- Single-side stable and single-winding latching models are available.
- Models with a smaller footprint (G6K(U)-2F-RF-S) are available to help save space.
- G6K(U)-2F-RF-T models for 3-GHz band join the lineup with a downsized footprint.
- New PCB terminals models are available.



RoHS Compliant

Model Number Legend

G6K□-□□-□-□
1 2 3 4 5

1. Relay Function

None: Single-side stable
U: Single-winding latching

2. Number of poles/ Contact Form

2: 2-pole/ DPDT (2c)

3. Terminal Shape

F: Outside-L surface mounting terminals
P: PCB terminals

4. Special Function

RF: High-frequency compatible

5. Terminal Shape

None: Standard
S: Small footprint
T: Compatible with 3 GHz

Application Examples

- Communications equipment
- Broadcasting and audio-visual equipment
- Test & measurement equipment

G6K(U)-2F(P)-RF(-S,-T)

Ordering Information

Standard Models with Surface-mounting Terminals Standard Specifications

Relay Function	Enclosure rating	Contact form	Model	Rated coil voltage	Minimum packing unit
Single-side stable	Fully sealed	DPDT (2c)	G6K-2F-RF	3, 4.5, 5, 12, 24 VDC	300 pcs/tray
Single-winding latching			G6KU-2F-RF		300 pcs/reel

Board space-saving model

Relay Function	Enclosure rating	Contact form	Model	Rated coil voltage	Minimum packing unit
Single-side stable	Fully sealed	DPDT (2c)	G6K-2F-RF-S	3, 4.5, 5, 12, 24 VDC	300 pcs/tray
Single-winding latching			G6KU-2F-RF-S		300 pcs/reel

Compatible with 3 GHz

Relay Function	Enclosure rating	Contact form	Model	Rated coil voltage	Minimum packing unit
Single-side stable	Fully sealed	DPDT (2c)	G6K-2F-RF-T	3, 4.5, 5, 12, 24 VDC	300 pcs/tray
Single-winding latching			G6KU-2F-RF-T		300 pcs/reel

PCB terminals

Relay Function	Enclosure rating	Contact form	Model	Rated coil voltage	Minimum packing unit
Single-side stable	Fully sealed	DPDT (2c)	G6K-2P-RF	3, 4.5, 5, 12, 24 VDC	30 pcs/tube

Note 1. When ordering, add the rated coil voltage to the model number.

Example: G6K-2F-RF 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. When ordering Relays in tape packing, add "-TR03" to the end of the model number.

Example: G6K-2F-RF-TR03 DC3

Relays per reel: 300 pcs for -TR03

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

When ordering tape packing, minimum order unit is 1 reel (300 pcs × 1 = 300 pcs).

■ Ratings

● Coil: Single-side Stable (G6K-2F(P)-RF(-S, -T))

Rated voltage	Item	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Maximum voltage (V)	Power consumption (mW)
				% of rated voltage			
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				

● Coil: Single-winding Latching Models (G6KU-2F-RF(-S, -T))

Rated voltage	Item	Rated current (mA)	Coil resistance (Ω)	Must set voltage (V)	Must reset voltage (V)	Maximum voltage (V)	Power consumption (mW)
				% of rated voltage			
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				

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.

● Contacts

Item	Load	Resistive load
Rated load		125 VAC, 0.3 A 30 VDC, 1 A 1 GHz, 1 W *
Rated carry current		1 A
Max. switching voltage		125 VAC or 60 VDC
Max. switching current		1A

* This value is for a V.SWR of 1.2 max. at the load.

● High-frequency Characteristics *1

Item	Model Frequency	G6K(U)-2F(P)-RF(-S)		G6K(U)-2F-RF-T	
		1GHz	1GHz	3GHz	3GHz
Isolation	Between contacts of the same polarity	20 dB min.	20 dB min.	18 dB min.	
	Between contacts of different polarity	30 dB min.	30 dB min.	25 dB min.	
Insertion loss		0.2 dB max.	0.2 dB max.	0.6 dB max.	
V.SWR		1.2 max.	1.2 max.	1.4 max.	
Maximum carry power		3W *2			
Maximum switching power		1W *2			

Note 1. The impedance of the measurement system is 50 Ω.

Note 2. The above values are initial values.

*1. Contact your OMRON representative if the Relay will be used in an application that requires high repeatability in high-frequency characteristics for the microload region. (Such applications include testing and measurement equipment and ATE applications.)

*2. These values are for a V.SWR of 1.2 max. at the load.

■ Characteristics

Item	Relay Function Model	Single-side stable models	Single-winding latching models
		G6K-2F(P)-RF(-S, -T)	G6KU-2F-RF(-S, -T)
Contact resistance *1		100 mΩ max.	
Operating (set) time *2		3 ms max. (approx. 1.4 ms)	3 ms max. (approx. 1.2 ms)
Release (reset) time *2		3 ms max. (approx. 1.3 ms)	3 ms max. (approx. 1.2 ms)
Minimum set/reset pulse time		---	10 ms
Insulation resistance *3		1,000 MΩ min. (at 500 VDC)	
Dielectric strength	Between coil and contacts	750 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	750 VAC, 50/60 Hz for 1 min	
	Between ground and coil/contacts	500 VAC, 50/60 Hz for 1 min	
Vibration resistance	Destruction	10 to 55 to 10 Hz, 2.5 mm single amplitude (5 mm double amplitude) and 55 to 500 Hz, 300 m/s ²	
	Malfunction	10 to 55 to 10 Hz, 1.65 mm single amplitude (3.3 mm double amplitude) and 55 to 500 Hz, 200 m/s ²	
Shock resistance	Destruction	1,000 m/s ²	
	Malfunction	750 m/s ²	
Durability	Mechanical	50,000,000 operations min. (at a switching frequency of 36,000 operations/hour)	
	Electrical	100,000 operations min. (at a switching frequency of 1,800 operations/hour)	
Ambient operating temperature		-40°C to 70°C (with no icing or condensation)	
Ambient operating humidity		5% to 85%	
Weight		Approx. 0.95 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.