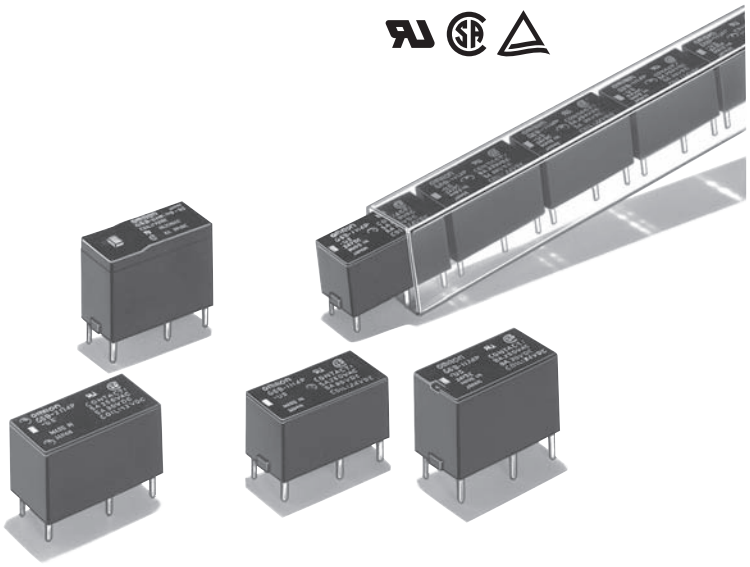
G6B
PCB Power Relay

High Capacity and High Dielectric Strength Miniature Relay with Fully Sealed Construction in 5 A (8 A) SPST-NO(1a), SPST-NO+SPST-NC(1a1b), DPST-NO(2a), DPST-NC(2b) Types



- P6B model for connecting sockets are available.
- High insulation with dielectric strength of 3,000VAC between coil and contacts (impulse withstand voltage of 6 kV).
- Standard model conforms to UL/CSA standards.
- AgSnIn contacts suitable for loads that generate surge voltage (inductive load, capacity load, etc.) are available. (-FD type)
- Ultrasonic cleanable models are available. (-U type)
- Operation indicator & built-in surge absorption diode models are available. (-ND type)
- 2-Pole type available.
- High-reliability models are available.
  G6B-1184P-US model (The relay used in Terminal Relay G6B-48BND)

RoHS Compliant

■Application Examples

- Ideal for output applications of control equipments

■Model Number Legend

G6B□-□□□□□-□-□-□-□-□-□-□
1 2 3 4 5 6 7 8 9 10 11

1. Relay Function
None: Single-side stable
U : Single-winding latching (G6B□-1114 models only)
K : Double-winding latching (G6B□-1114 models only)

2. Contact Form
21: SPST-NO + SPST-NC
22: DPST-NO
20: DPST-NC
11: SPST-NO

3. Classification
1: Standard
7: High-capacity
8: Single crossbar

4. Enclosure rating
4: Fully sealed
7: Flux protection

5. Terminal Shape
P: Straight PCB terminals
Socket mounting terminals
C: Self-clinching PCB

6. Contact material
None: Standard (Ag-alloy (Cd free))
FD : AgSnIn contact (Suitable for DC inductive load with high inrush current)

7. Coil Polarity
None: 5, 6 Terminal (+), 1, 2 Terminal (-)
1 : 5, 6 Terminal (-), 1, 2 Terminal (+)

8. Operation Indicator Diode Availability
None: Standard
ND : Operation indicator & coil surge absorption diode (for -1177 type only)

9. Approved Standards
US: UL/CSA

10. Washability
None: Standard
U : For ultrasonically cleanable

11. Mounting
None: Mounted directly to PCB
P6B : Mounted to Socket

■Characteristics

Item \ Model		G6B-1114P(-FD)(-1)-US G6B-1174P(-FD)(-1)-US G6B-1114C(-FD)-US G6B-1174C(-FD)-US	G6BU-1114P(-FD)(-1)-US G6BU-1114C-US	G6BK-1114P(-FD)(-1)-US G6BK-1114C(-FD)-US	G6B-1177P(-FD)-ND-US G6B-1177C(-FD)-ND-US	G6B-1184P-US	G6B-2114P(-FD)(-1)-US G6B-2214P(-FD)(-1)-US G6B-2014P(-FD)(-1)-US G6B-2114C(-FD)-US G6B-2214C(-FD)-US G6B-2014C(-FD)-US
Classification		Single-side stable	Single-winding latching	Double-winding latching	Built-in operation indicator & surge absorption diode	Single-side stable	Single-side stable
Contact resistance *1		30 mΩ max.				50 mΩ max.	30 mΩ max.
Operate (set) time		10 ms max.					
Release (reset) time		10 ms max.					
Min. set pulse width		–	15 ms (at 23°C)		–		
Min. reset pulse width		–	15 ms (at 23°C)		–		
Insulation resistance *2		1,000 MΩ min.					
Dielectric strength	Between coil and contacts	3,000 VAC, 50/60 Hz for 1 min		2,000 VAC, 50/60 Hz for 1 min	3,000 VAC, 50/60 Hz for 1 min		
	Between contacts of the same polarity	1,000 VAC, 50/60 Hz for 1 min					
	Between contacts of different polarity	–					2,000 VAC, 50/60 Hz for 1 min
	Between set and reset coils	–		250 VAC, 50/60 Hz for 1 min	–		
Impulse withstand voltage (between coil and contacts)		6 kV 1.2 × 50 μs	4.5 kV 1.2 × 50 μs		6 kV 1.2 × 50 μs	–	6 kV 1.2 × 50 μs
Vibration resistance	Destruction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)					
	Malfunction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)					
Shock resistance	Destruction	1,000 m/s²					
	Malfunction	100 m/s²	300 m/s²		100 m/s²		
Durability	Mechanical	50,000,000 operations min. (at 18,000 operations/hr)					
	Electrical	100,000 operation min. (at 1,800 operations/hr under rated load)					
Failure rate (P level) (reference value) *3		10 mA at 5 VDC				1 mA at 1 VDC	10 mA at 5 VDC
Ambient operating temperature		-25°C to 70°C (with no icing or condensation)					
Ambient operating humidity		5% to 85%					
Weight		Approx. 3.5 to 4.6 g	Approx. 3.5 g	Approx. 3.7 g	Approx. 5.4 g	Approx. 3.5 g	Approx. 4.5 g

Note 1. The values here are initial values.
2. The G6B-1177P(-FD)-ND model is flux-resistant. Do not wash it down with water.

*1. The contact resistance was measured with 1 A at 5 VDC using a voltage-drop method.

*2. Measurement conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the dielectric strength was measured.(Except the location between set/reset coil)

*3. This value was measured at a switching frequency of 120 operations/min.