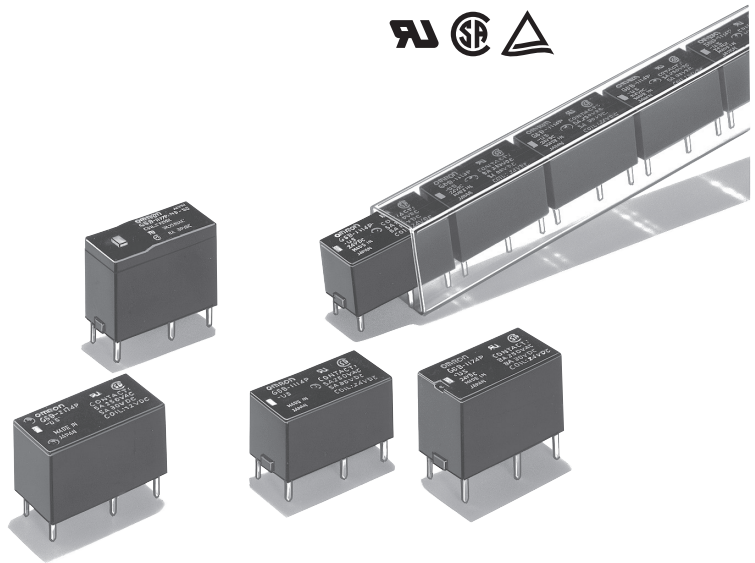


High Capacity and High Dielectric Strength Miniature Relay with Fully Sealed Construction in 5 A (8 A) SPST-NO(1a), SPST-NO+SPST-NC(1a1b), DPST-NO(2a), DPST-NC(2b) Types



- 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)

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

● Models for Ultrasonically Cleanable

Number of poles	Relay Function	Contact form	Contact material Terminals	Standard (Ag-alloy (Cd free))		Ag3SnIn contact		Minimum packing unit
				Model	Rated coil voltage	Model	Rated coil voltage	
1-pole	Single-side stable	SPST-NO (1a) (Standard)	Straight PCB	G6B-1114P-US-U	5, 6, 12, 24 VDC	G6B-1114P-FD-US-U	6, 12, 24 VDC	100 pcs/tray
			Self-clinching PCB	G6B-1114C-US-U	5, 12, 24 VDC	---	---	
	Single-winding latching	SPST-NO (1a) (Standard)	Straight PCB	G6BU-1114P-US-U	24 VDC	---	---	
			Self-clinching PCB	---	---	---	---	
	Double-winding latching	SPST-NO (1a) (Standard)	Straight PCB	G6BK-1114P-US-U	5, 6, 12, 24 VDC	G6BK-1114P-FD-US-U	12, 24 VDC	
			Self-clinching PCB	G6BK-1114C-US-U	24 VDC	---	---	
2-pole	Single-side stable	SPST-NO (1a)+ SPST-NC (1b) (Standard)	Straight PCB	G6B-2114P-US-U	5, 12, 24 VDC	G6B-2114P-FD-US-U	5, 12, 24 VDC	
			Self-clinching PCB	---	---	---	---	
		DPST-NO (2a) (Standard)	Straight PCB	G6B-2214P-US-U	5, 6, 12, 24 VDC	G6B-2214P-FD-US-U	5, 12, 24 VDC	
			Self-clinching PCB	G6B-2214C-US-U	12, 24 VDC	---	---	
		DPST-NC (2b) (Standard)	Straight PCB	G6B-2014P-US-U	5, 12, 24 VDC	G6B-2014P-FD-US-U	5, 12, 24 VDC	
			Self-clinching PCB	---	---	---	---	

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

Example: G6B-1114P-US DC5

 └── 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.

● Connecting Sockets (Sold Separately)

Applicable relay	Model	Minimum ordering unit
G6B-1114P(-FD)-US-P6B G6B-1174P(-FD)-US-P6B G6B-1177P(-FD)-ND-US-P6B G6BU-1114P-US-P6B	P6B-04P	20 pcs
G6BK-1114P-US-P6B	P6B-06P	
G6B-2114P-US-P6B G6B-2214P-US-P6B G6B-2014P-US-P6B	P6B-26P	
Removal Tool	P6B-Y1	1 pcs
Hold-down Clips	P6B-C2	

- Note 1. G6B-1174P-US-P6B and G6B-1177P-ND-US-P6B are rated for 8 A when mounted on a PCB. However, when used with the P6B-04P socket models, the allowable current is derated to 5 A.
2. The P6B sockets are designed to be used with G6B-□□□□P(-FD)-US-P6B relays. Only use G6B relays that include "-P6B" in their model numbers with the sockets. Do not use standard G6B's that omit "-P6B" from their model numbers with the sockets.
3. The hold-down clips of the P6B-C2 model are not suitable for the G6B-1174P and G6B-1177P models since they have different heights.
4. Products with UL/CSA certification marks will be supplied for orders of standard models.

Characteristics

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
Item	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	-					
	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/s ²					
	Malfunction	100 m/s ²	300 m/s ²		100 m/s ²		
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.

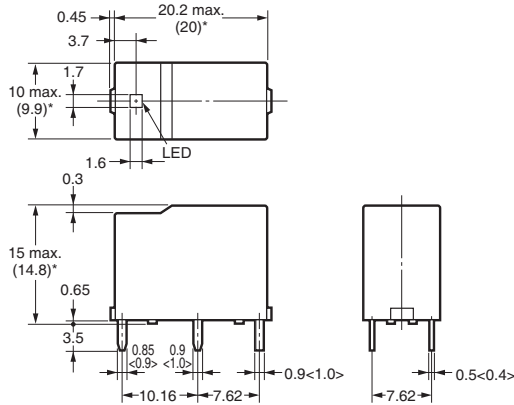
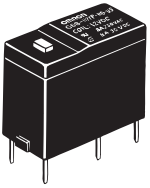
*2. Measurement conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the dielectric strength was measured. (Except the location between set/reset coil)

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

1-pole Single-side stable Models (SPST-NO (1a)) (Built-in high capacity operation indicator & surge absorption diode)

Straight PCB

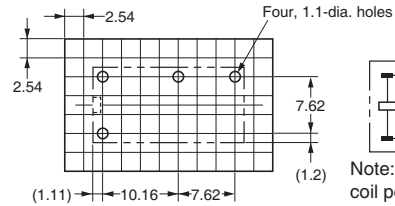
G6B-1177P(-FD)-ND-US



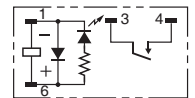
* Average value

Dimensions in pointed brackets < > are for the Relay mounted to Socket.

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



Terminal Arrangement/ Internal Connections (BOTTOM VIEW)

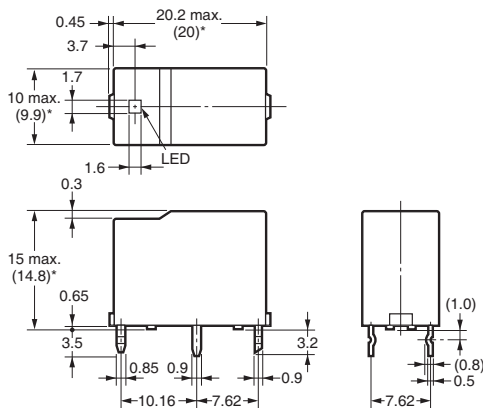
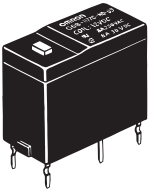


Note: Check carefully the coil polarity of the Relay.

Note: The G6B-1177P-ND-US model has a flux-resistant construction. Do not wash it down with water. Pay attention to the polarity of the coil since the LED and surge absorption diode are built-in.

Self-clinching PCB

G6B-1177C(-FD)-ND-US



* Average value

Dimensions in pointed brackets < > are for the Relay mounted to Socket.

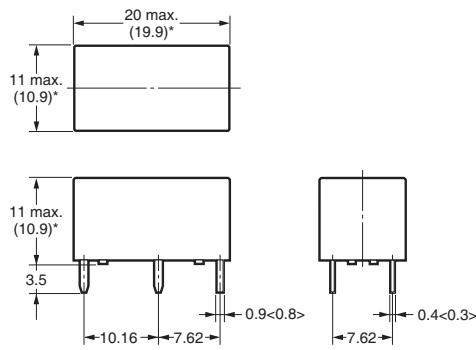
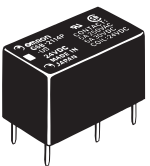
2-poles Single-side stable Models (SPST-NO (1a) + SPST-NC (1b), DPST-NO (2a), DPST-NC(2b))

Straight PCB

G6B-2114P(-FD)(-1)-US

G6B-2214P(-FD)(-1)-US

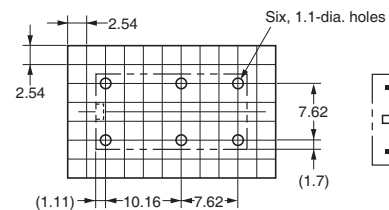
G6B-2014P(-FD)-US



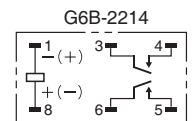
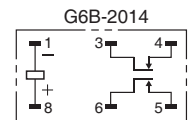
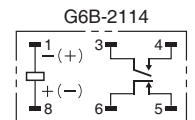
* Average value

Dimensions in pointed brackets < > are for the Relay mounted to Socket.

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



Terminal Arrangement/ Internal Connections (BOTTOM VIEW)



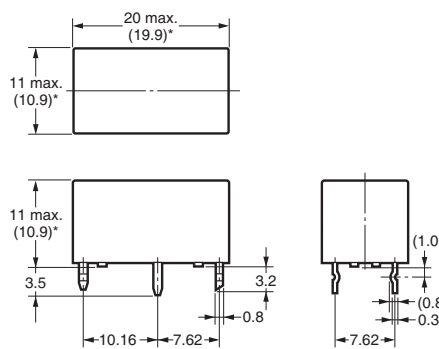
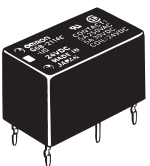
Note: Check carefully the coil polarity of the Relay. Polarity in the parenthesis is the models for reverse coil polarity.

Self-clinching PCB

G6B-2114C(-FD)-US

G6B-2214C(-FD)-US

G6B-2014C(-FD)-US



* Average value

Dimensions in pointed brackets < > are for the Relay mounted to Socket.

Approved Standards

- The approval rating values for overseas standards are different from the performance values determined individually. Confirm the values before use.

UL Recognized:  (File No. E41643)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G6B-1114P(-FD)(-1)-US G6B-1114C(-FD)-US	1	3 to 24 VDC	5 A, 250 VAC (General Use) 80°C	6,000
			5 A, 30 VDC (Resistive) 80°C	
			1/8HP, 250 VAC 80°C	1,000
			1/6HP, 250 VAC 80°C	
G6B-1174P(-FD)(-1)-US G6B-1174C(-FD)-US	1	3 to 24 VDC	8 A, 277 VAC (General Use) 80°C	30,000
			8 A, 30 VDC (Resistive) 80°C	
G6B-1184P-US	1	3 to 24 VDC	2 A, 250 VAC (General Use) 80°C	6,000
			2 A, 30 VDC (Resistive) 80°C	
G6B-2114P(-FD)(-1)-US G6B-2214P(-FD)(-1)-US G6B-2014P(-FD)-US G6B-2114C(-FD)-US G6B-2214C(-FD)-US G6B-2014C(-FD)-US	2	3 to 24 VDC	5 A, 250 VAC (General Use) 80°C	6,000
			5 A, 30 VDC (Resistive) 80°C	

CSA Certified:  (File No. LR31928)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G6B-1114P(-FD)(-1)-US G6B-1114C(-FD)-US	1	3 to 24 VDC	5 A, 250 VAC (General Use) 80°C	6,000
			5 A, 30 VDC (Resistive) 80°C	
			1/6HP, 250 VAC 80°C	1,000
			360 W, 120 VAC tungsten 80°C	6,000
G6B-1174P(-FD)(-1)-US G6B-1174C(-FD)-US	1	3 to 24 VDC	8 A, 277 VAC (General Use) 80°C	30,000
			8 A, 30 VDC (Resistive) 80°C	
G6B-2114P(-FD)(-1)-US G6B-2214P(-FD)(-1)-US G6B-2014P(-FD)-US G6B-2114C(-FD)-US G6B-2214C(-FD)-US G6B-2014C(-FD)-US	2	3 to 24 VDC	5 A, 250 VAC (General Use) 80°C	6,000
			5 A, 30 VDC (Resistive) 80°C	

EN/IEC, TÜV Certified:  (Registration No. R50158246)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G6B-1114P(-1)-US G6B-1114C-US	1	5, 6, 12, 24 VDC	5 A, 250 VAC (cosφ = 1) at 70°C	20,000
			2 A, 250 VAC (cosφ = 0.4) at 70°C	
			5 A, 30 VDC (L/R = 0 ms) at 70°C	
G6B-1174P(-1)-US G6B-1174C-US	1	5, 6, 12, 24 VDC	8 A, 250 VAC (cosφ = 1) at 70°C	
			2 A, 250 VAC (cosφ = 0.4) at 70°C	
			8 A, 30 VDC (L/R = 0 ms) at 70°C	
G6B-2114P(-1)-US G6B-2214P(-1)-US G6B-2014P-US G6B-2114C-US G6B-2214C-US G6B-2014C-US	2	5, 6, 12, 24 VDC	5 A, 250 VAC (cosφ = 1) at 70°C	
			1.5 A, 250 VAC (cosφ = 0.4) at 70°C	
			5 A, 30 VDC (L/R = 0 ms) at 70°C	
G6B-1114P(-FD)(-1)-US G6B-1114C(-FD)-US	1	5, 6, 12, 24 VDC	3 A, 250 VAC (cosφ = 1) at 70°C	10,000
			3 A, 30 VDC (L/R = 0 ms) at 70°C	
G6B-1174P(-FD)(-1)-US G6B-1174C(-FD)-US	1	5, 6, 12, 24 VDC	5 A, 250 VAC (cosφ = 1) at 70°C	
			2 A, 250 VAC (cosφ = 0.4) at 70°C	
			5 A, 30 VDC (L/R = 0 ms) at 70°C	
G6B-2114P(-FD)(-1)-US G6B-2214P(-FD)(-1)-US G6B-2014P(-FD)-US G6B-2114C(-FD)-US G6B-2214C(-FD)-US G6B-2014C(-FD)-US	2	5, 6, 12, 24 VDC	1.5 A, 250 VAC (cosφ = 0.4) at 70°C	
			3 A, 30 VDC (L/R = 0 ms) at 70°C	

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[G6B-2214P-US-DC5](#) [G6B-2214P-US-DC12](#) [G6B-1174P-US-DC24](#) [G6B-1114P-US-DC12](#) [G6B-1114P-US-DC24](#)
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[DC9](#) [G6B-2114P-US-DC9](#) [G6B-2214P-1-US DC6](#) [G6B-2214P-FD-US DC24](#) [G6B-2214P-US DC9](#) [G6B-2214P-US-](#)
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