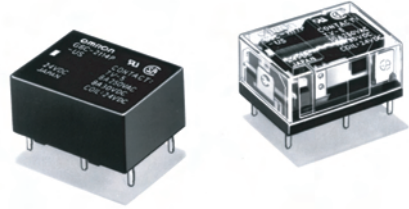


## SPST-NO Type Breaks 10-A Loads; SPST-NO + SPST-NC Type Breaks 8-A Load

- ROHS compliant
- Compact: 20 x 15 x 10 mm (L x W x H).
- Low power consumption: 200 mW.
- Flux protection or fully sealed construction available.
- Unique moving loop armature reduces relay size, magnetic interference, and contact bounce.
- Single- and double-winding latching types also available



## Ordering Information

Classification	Contact form	Straight PCB		Self-clinching PCB	
		Flux protection	Fully sealed	Flux protection	Fully sealed
Single-side stable	SPST-NO	G6C-1117P-US	G6C-1114P-US	G6C-1117C-US	G6C-1114C-US
	SPST-NO + SPST-NC	G6C-2117P-US	G6C-2114P-US	G6C-2117C-US	G6C-2114C-US
Single-winding latching	SPST-NO	G6CU-1117P-US	G6CU-1114P-US	G6CU-1117C-US	G6CU-1114C-US
	SPST-NO + SPST-NC	G6CU-2117P-US	G6CU-2114P-US	G6CU-2117C-US	G6CU-2114C-US
Double-winding latching	SPST-NO	G6CK-1117P-US	G6CK-1114P-US	G6CK-1117C-US	G6CK-1114C-US
	SPST-NO + SPST-NC	G6CK-2117P-US	G6CK-2114P-US	G6CK-2117C-US	G6CK-2114C-US

**Note:** When ordering, add the rated coil voltage to the model number.  
Example: G6C-1117P-US 12 VDC

Rated coil voltage

### Model Number Legend

G6C  -    -   VDC  
1    2    3    4    5    6    7

#### 1. Relay Function

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

#### 2. Contact Form

- 11: SPST-NO
- 21: SPST-NO + SPST-NC

#### 3. Contact Type

- 1: Standard

#### 4. Enclosure Ratings

- 7: Flux protection
- 4: Fully sealed

#### 5. Terminals

- P: Straight PCB
- C: Self-clinching PCB

#### 6. Approved Standards

- US: UL/CSA certified

#### 7. Rated Coil Voltage

- 3, 5, 6, 12, 24 VDC

## ■ Accessories (Order Separately)

### Back Connecting Sockets

Applicable relay	Back connecting socket*
G6C(U)-1114P-US G6C(U)-1117P-US G6C(U)-2114P-US G6C(U)-2117P-US	P6C-06P
G6CK-1114P-US G6CK-1117P-US G6CK-2114P-US G6CK-2117P-US	P6C-08P

Removal Tool	P6B-Y1
Hold-down Clips	P6B-C2

\*Not applicable to the self-clinching type.

The operating current for the socket is 5 A max

## Specifications

### ■ Coil Rating

#### Single-side Stable Type

<b>Rated voltage</b>	3 VDC	5 VDC	6 VDC	12 VDC	24 VDC
<b>Rated current</b>	67 mA	40 mA	33.3 mA	16.7 mA	8.3 mA
<b>Coil resistance</b>	45 Ω	125 Ω	180 Ω	720 Ω	2,880 Ω
<b>Coil inductance</b>	<b>Armature OFF</b> 0.078	0.22	0.36	1.32	4.96
<b>(H) (ref. value)</b>	<b>Armature OFF</b> 0.067	0.18	0.29	1.13	4.19
<b>Must operate voltage</b>	70% max. of rated voltage				
<b>Must release voltage</b>	10% min. of rated voltage				
<b>Max. voltage</b>	160% of rated voltage (at 23°C)				
<b>Power consumption</b>	Approx. 200 mW				

#### Single-side Latching Type

<b>Rated voltage</b>	3 VDC	5 VDC	6 VDC	12 VDC	24 VDC
<b>Rated current</b>	67 mA	40 mA	33.3 mA	16.7 mA	8.3 mA
<b>Coil resistance</b>	45 Ω	125 Ω	180 Ω	720 Ω	2,880 Ω
<b>Coil inductance</b>	<b>Armature OFF</b> 0.09	0.25	0.36	1.75	5.83
<b>(H) (ref. value)</b>	<b>Armature OFF</b> 0.06	0.20	0.24	1.17	3.84
<b>Must operate voltage</b>	70% max. of rated voltage				
<b>Must release voltage</b>	70% min. of rated voltage				
<b>Max. voltage</b>	160% of rated voltage (at 23°C)				
<b>Power consumption</b>	Approx. 200 mW				

## Double-winding Latching Type

<b>Rated voltage</b>		3 VDC	5 VDC	6 VDC	12 VDC	24 VDC	
<b>Set coil</b>	<b>Rated current</b>	93.5 mA	56.0 mA	46.7 mA	23.3 mA	11.7 mA	
	<b>Coil resistance</b>	32.1 Ω	89.3 Ω	129 Ω	514 Ω	2,056 Ω	
	<b>Coil inductance</b>	<b>Armature OFF</b>	0.03	0.07	0.10	0.37	1.56
	<b>(H) (ref. value)</b>	<b>Armature OFF</b>	0.02	0.06	0.08	0.32	1.18
<b>Reset coil</b>	<b>Rated current</b>	93.5 mA	56.0 mA	46.7 mA	23.3 mA	11.7 mA	
	<b>Coil resistance</b>	32.1 Ω	89.3 Ω	129 Ω	514 Ω	2,056 Ω	
	<b>Coil inductance</b>	<b>Armature OFF</b>	0.03	0.08	0.12	0.47	1.46
	<b>(H) (ref. value)</b>	<b>Armature OFF</b>	0.02	0.07	0.10	0.38	1.13
<b>Must set voltage</b>		70% max. of rated voltage					
<b>Must reset voltage</b>		70% min. of rated voltage					
<b>Max. voltage</b>		130% of rated voltage (at 23°C)					
<b>Power consumption</b>		Set coil: Approx. 280 mW Reset coil: Approx. 280 mW					

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.
  2. Operating characteristics are measured at a coil temperature of 23°C.
  3. The minimum pulse width of the set and reset voltage is 20 ms.

## ■ Contact Ratings

Item	SPST-NO		SPST-NO+SPST-NC	
	Resistive load ( $\cos\phi = 1$ )	Inductive load ( $\cos\phi = 0.4$ ; L/R = 7 ms)	Resistive load ( $\cos\phi = 1$ )	Inductive load ( $\cos\phi = 0.4$ ; L/R = 7 ms)
<b>Rated load</b>	10 A at 250 VAC; 10A at 30 VDC	5 A at 250 VAC; 5 A at 30 VDC	8A at 250 VAC; 8A at 30 VDC;	3.5 A at 250 VAC; 3.5 A at 30 VDC
<b>Contact material</b>	AgNi (FD type = AgSnIn)			
<b>Rated carry current</b>	10 A		8 A	
<b>Max. switching voltage</b>	380 VAC, 125 VDC (the case of latching 250 VAC, 125 VDC)			
<b>Max. switching current</b>	10 A		8 A	
<b>Max. switching power</b>	2,500 VA, 300 W	1,250 VA, 220 W	2,000 VA, 240 W	875 VA, 170 W
<b>Failure rate (reference value)</b>	10 mA at 5 VDC			

**Note:** P level:  $\lambda_{60} = 0.1 \times 10^{-6}$ /operation

## ■ Characteristics

<b>Contact resistance</b>		30 mΩ max.
<b>Operate (set) time</b>		10 ms max. (mean value: approx. 5 ms)
<b>Release (reset) time</b>		10 ms max. (mean value: approx. 2 ms; latching types: mean value: approx. 5 ms)
<b>Bounce Time</b>		Operate: 5 ms max. Release: 5 ms max.
<b>Min. set/reset signal width</b>		Latching type: 20 ms (at 23°C)
<b>Max. switching frequency</b>		Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
<b>Insulation resistance</b>		1,000 MΩ min. (at 500 VDC, at 250 VDC between set coil and reset coil)
<b>Dielectric strength</b>		2,000 VAC, 50/60 Hz for 1 min between coil and contacts 2,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity 250 VAC, 50/60 Hz for 1 min between set and reset coils
<b>Insulation Distance</b>	<b>Creepage (Typ)</b>	5.5 mm
	<b>Clearance (Typ)</b>	5.5 mm
<b>Tracking Resistance (CTI)</b>		175 V
<b>Impulse withstand voltage</b>		6,000 V (1.2 x 50 μs) between coil and contacts (latching types: 4,500 V, 1.2 50 μs)
<b>Vibration resistance</b>		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)
<b>Shock resistance</b>		Destruction: 1,000 m/s <sup>2</sup> Malfunction: 100 m/s <sup>2</sup>
<b>Ambient temperature</b>		Operating: -25°C to 70°C (with no icing)
<b>Ambient humidity</b>		Operating: 5% to 85%
<b>Endurance</b>		Mechanical: 50,000,000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (at 1,800 operations/hr)
<b>Weight</b>		Approx. 5.6 g

## ■ Approved Standards UL508 (File No. E41643)

Model	Contact form	Coil rating	Contact rating
G6C-1114P-US G6C-1114C-US G6C-1117P-US G6C-1117C-US	SPST-NO	3 to 60 VDC	10 A, 250 VAC (general use) 10 A, 30 VDC (resistive load) 1/6 hp, 125 VAC 1/4 hp, 125 VAC 1/4 hp, 250 VAC 1/3 hp, 250 VAC TV-5 600 W, 120 VAC (tungsten) 530 VA, 20 to 265 VAC, 2 A max. (pilot duty) 43.2 VA, 30 VDC (pilot duty) 12LRA, 2.2FLA, 30 VDC (30,000 cycle)
G6C-2114P-US G6C-2114C-US G6C-2117P-US G6C-2117C-US	SPST-NO + SPST-NC		8 A, 250 VAC (general use) 8 A, 30 VDC (resistive load) 1/6 hp, 125 VAC 1/4 hp, 125 VAC 1/4 hp, 250 VAC TV-5 600 W, 120 VAC (tungsten)

## ■ Approved Standards (continued) CSA C22.2 No.14 (File No. LR31928)

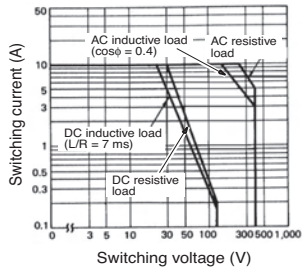
Model	Contact form	Coil rating	Contact rating
G6C-1114P-US G6C-1114C-US G6C-1117P-US G6C-1117C-US	SPST-NO	3 to 60 VDC	10 A, 250 VAC (general use) 10 A, 30 VDC (resistive load) 1/6 hp, 125 VAC 1/4 hp, 125 VAC 1/4 hp, 250 VAC 1/3 hp, 250 VAC TV-5 600 W, 120 VAC (tungsten)
G6C-2114P-US G6C-2114C-US G6C-2117P-US G6C-2117C-US	SPST-NO + SPST-NC	3 to 60 VDC	8 A, 250 VAC (general use) 8 A, 30 VDC (resistive load) 1/6 hp, 125 VAC 1/4 hp, 125 VAC 1/4 hp, 250 VAC TV-5 600 W, 120 VAC (tungsten)

## VDE (Approval No. 2413) EN61810-1

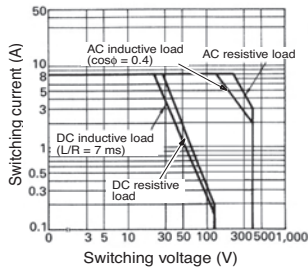
Model	Contact form	Coil rating	Contact rating	Number of test operations
G6C-1114P-US G6C-1114C-US G6C-1117P-US G6C-1117C-US	SPST-NO	3, 12, 24VDC	10A, 250VAC ( $\cos\phi = 1$ ) 5A, 250VAC ( $\cos\phi = 0.4$ )	100,000
G6C-2114P-US G6C-2114C-US G6C-2117P-US G6C-2117C-US	SPST-NO+SPST-NC	Single-stable: 3, 5, 12, 24VDC Latching: 5VDC G6CU-2117P-VD: 3VDC	7A, 250VAC ( $\cos\phi = 1$ ) 3.5A, 250VAC ( $\cos\phi = 0.4$ )	100,000

## ■ Engineering Data

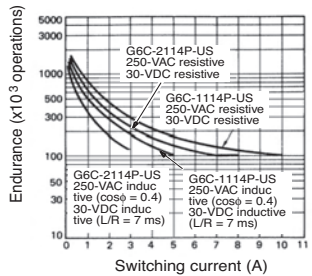
### Maximum Switching Power SPST-NO



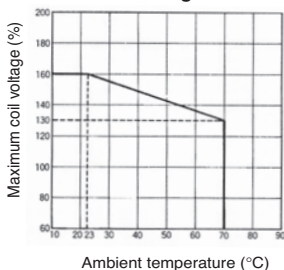
### SPST-NO + SPST-NC



### Endurance




### Ambient Temperature vs. Maximum Coil Voltage



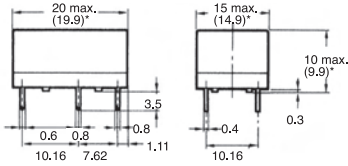
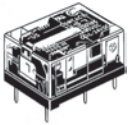
**Note:** The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

## Dimensions

Note: 1. All units are in millimetres unless otherwise indicated.

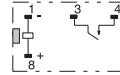
2. Orientation marks are indicated as follows: 

### G6C-□117P-US



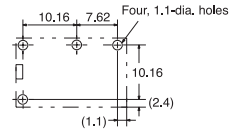
\*Average value

G6C-1117P-US, G6C-1117C-US  
G6C-1114P-US, G6C-1114C-US  
Terminal Arrangement/Internal  
Connections (Bottom View)

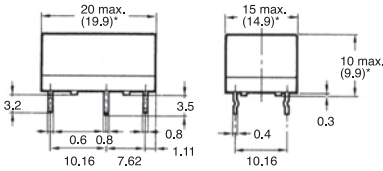
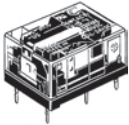


Mounting Holes  
(Bottom View)

Tolerance:  $\pm 0.1$

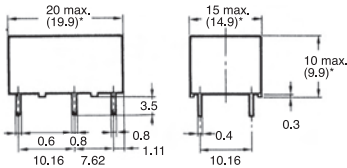
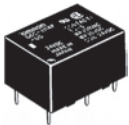


### G6C-□117C-US



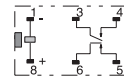
\*Average value

### G6C-□114P-US



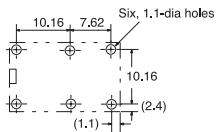
\*Average value

G6C-2117P-US, G6C-2117C-US  
G6C-2114P-US, G6C-2114C-US  
Terminal Arrangement/Internal  
Connections (Bottom View)

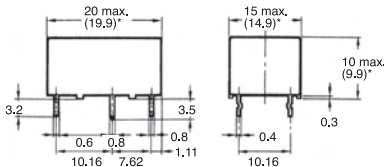
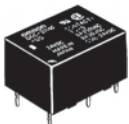


Mounting Holes  
(Bottom View)

Tolerance:  $\pm 0.1$

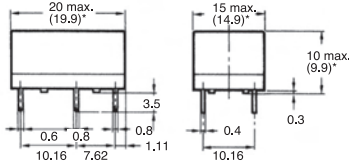
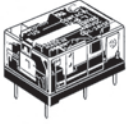


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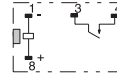
\*Average value

## G6CU-□117P-US

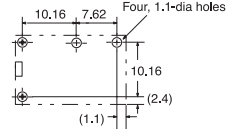


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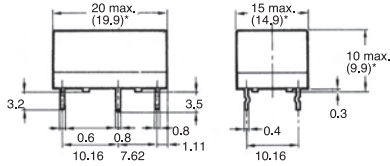
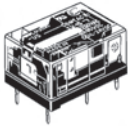
## G6CU-117P-US, G6CU-117C-US G6CU-1114P-US, G6CU-1114C-US Terminal Arrangement/Internal Connections (Bottom View)



## Mounting Holes (Bottom View)

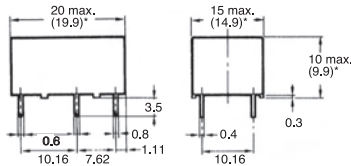
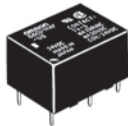


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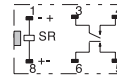
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## G6CU-□114P-US

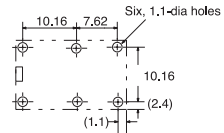


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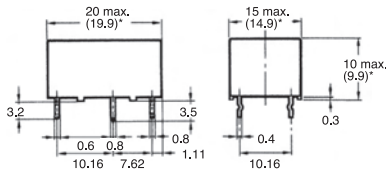
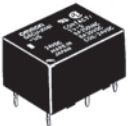
## G6CU-2117P-US, G6CU-2117C-US G6CU-2114P-US, G6CU-2114C-US Terminal Arrangement/Internal Connections (Bottom View)



## Mounting Holes (Bottom View)



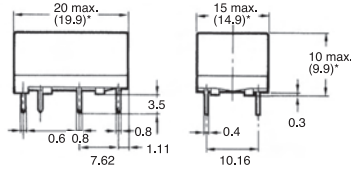
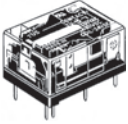
## G6CU-□114C-US



\*Average value

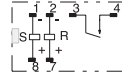
# PCB Power Relay – G6C

## G6CK-□117P-US

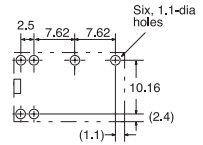


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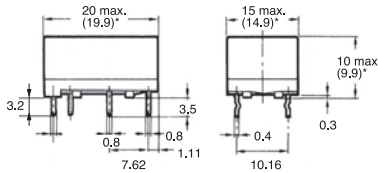
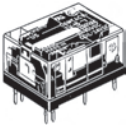
## G6CK-1117P-US, G6CK-1117C-US G6CK-1114P-US, G6CK-1114C-US Terminal Arrangement/Internal Connections (Bottom View)



## Mounting Holes (Bottom View)

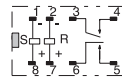


## G6CK-□117C-US

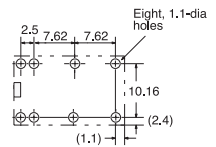


\*Average value

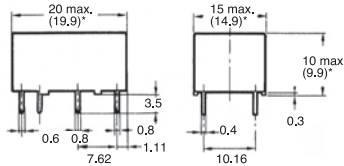
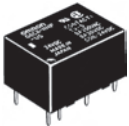
## G6CK-2117P-US, G6CK-2117C-US G6CK-2114P-US, G6CK-2114C-US Terminal Arrangement/Internal Connections (Bottom View)



## Mounting Holes (Bottom View)

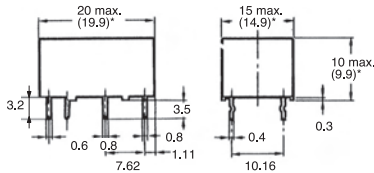
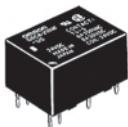


## G6CK-□114P-US



\*Average value

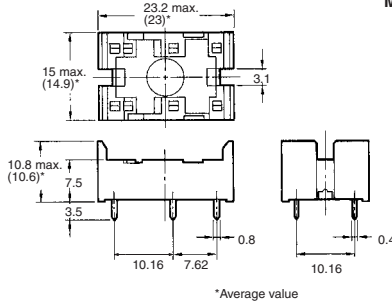
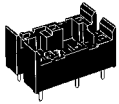
## G6CK-□114C-US



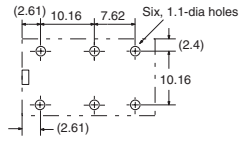
\*Average value



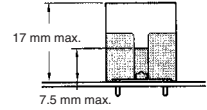
## Back Connecting Sockets P6C-06P



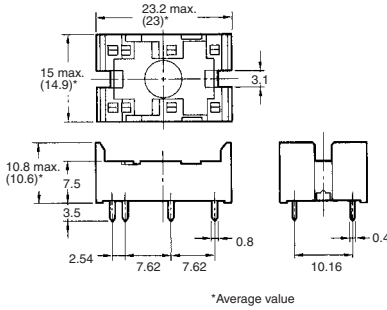
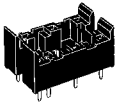
## Mounting Holes (Bottom View)



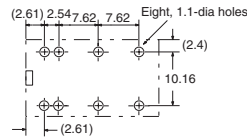
## Mounting Height of Relay with Connecting Socket



## P6C-08P

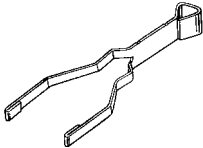


## Mounting Holes (Bottom View)



**Note:** Rated current of socket max. 5 A

## Removal Tool P6B-Y1



## Hold-down Clips P6B-C2

