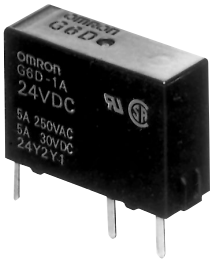
OMRON

Power PCB Relay
G6D-ASI

- Reduced board space ideal for high-density mounting (45% smaller than the surface area of G6B).
- Slim package: measures 6.5 W x 17.5 L x 12.5 H mm (0.26 x 0.69 x 0.49 in).
- Switches loads up to 5 A, 250 VAC/30 VDC.
- Fully sealed construction allows automatic soldering and cleaning.
- Long service life: up to 300,000 operations with a 2 A, 250 VAC/30 VDC load.
- Rated for D150 pilot duty by UL, CSA.
- Optional mounting socket simplifies relay installation and servicing of finished equipment.
- RoHS Compliant.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6D-1A-ASI-*DC12*).

Type	Contact form	Terminal	Construction	Model
Standard	SPST-NO	PCB	Fully sealed	**G6D-1A-ASI**

■ Accessories

Connecting Socket

Description	Model
PCB mount socket for G6D relay	**P6D-04P**

Specifications

■ Contact Data

Load	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.40, L/R = 7 ms)
Rated load	5 A at 250 VAC, 30 VDC	2 A at 250 VAC, 30 VDC
Contact material	Ag alloy	
Carry current	5 A	
Max. operating voltage	250 VAC, 30 VDC	
Max. operating current	5 A	
Max. switching capacity	1,250 VA, 150 W	500 VA, 60 W
Min. permissible load	10 mA at 5 VDC	

Note: P level: λ_{60} = 0.1 x 10^{-6}/operation

■ Coil Data

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
5	40	125	70% max.	10% min.	160% at 23°C	Approx. 200
12	16.7	720				
24	8.3	2,880				

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.
2. Operating characteristics are measured at a coil temperature of 23°C (73°F).
3. The pick-up voltage is 75% or less of rated voltage if the relay is mounted upside down.

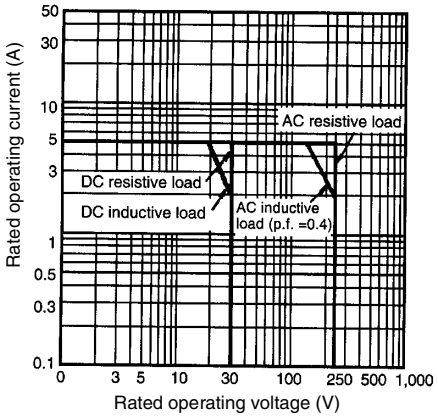
■ Characteristics

Contact resistance		100 mΩ max.
Operate time		10 ms max.
Release time		5 ms max.
Operating frequency	**Mechanical**	18,000 operations/hour
	Electrical	1,800 operations/hour (under rated load)
Insulation resistance		1,000 MΩ min. (at 500 VDC)
Dielectric strength		3,000 VAC, 50/60 Hz for 1 minute between coil and contacts
		750 VAC, 50/60 Hz for 1 minute between contacts of the same polarity
Surge withstand voltage		6,000 V, 1.20 x 50 μs between coil and contacts
Vibration	**Mechanical durability**	10 to 55 Hz, 1.50 mm (0.06 in) double amplitude
	Malfunction durability	10 to 55 Hz, 1.50 mm (0.06 in) double amplitude
Shock	**Mechanical durability**	1,000 m/s^2 (approx. 100 G)
	Malfunction durability	100 m/s^2 (approx. 10 G)
Ambient temperature	**Operating**	-25° to 70°C (-13° to 158°F)
Humidity		5% to 85% RH
Life expectancy	**Mechanical**	20 million operations min. (at operating frequency of 18,000 operations/hour)
	Electrical	70,000 operations min. at rated loads (300,000 operations min for 2A at 250 VAC, 30 VDC, resistive load)
Weight		Approx. 3 g (0.10 oz)

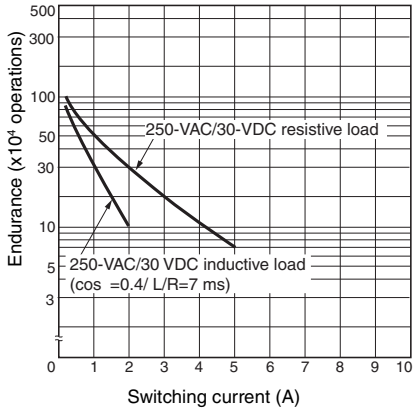
Note: Data shown are of initial value.

■ Characteristic Data

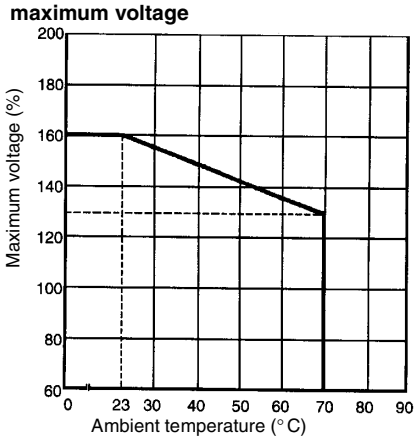
Maximum switching capacity



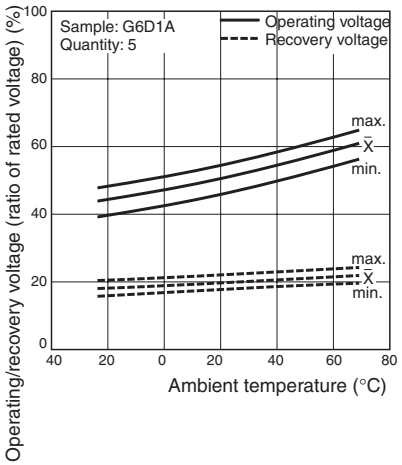
Life expectancy



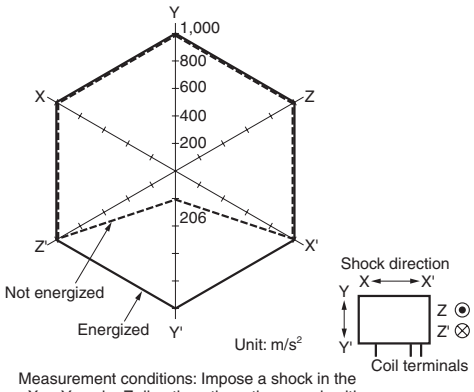
Ambient temperature vs. maximum voltage



Ambient Temperature vs. Operating/ Recovery Voltage
G6D-1A-ASI



Malfunctioning Shock
G6D-1A-ASI



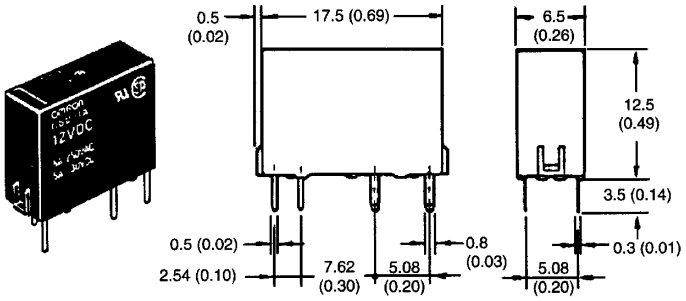
Measurement conditions: Impose a shock in the ±X, ±Y, and ±Z directions three times each with the Relay energized to check the shock values that cause the Relay to malfunction.

Dimensions

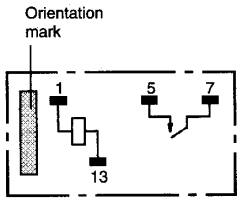
Unit: mm (inch)

■ Relays

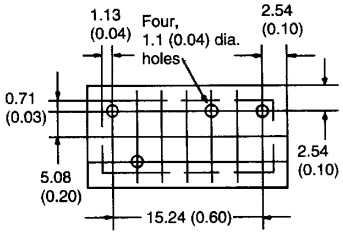
G6D-1A-ASI



Terminal arrangement/ Internal connections
(Bottom view)

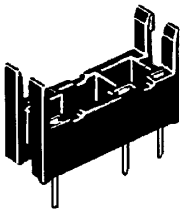


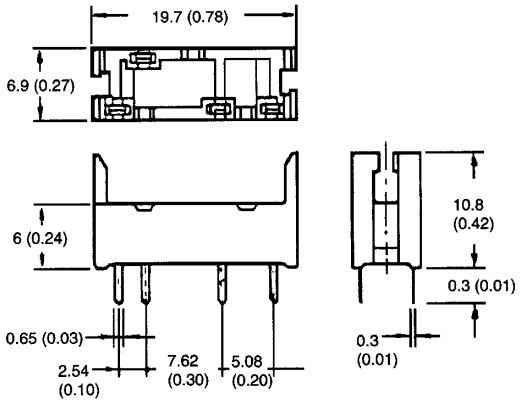
Mounting holes
(Bottom view)
Tolerance: ±0.1 (0.4)



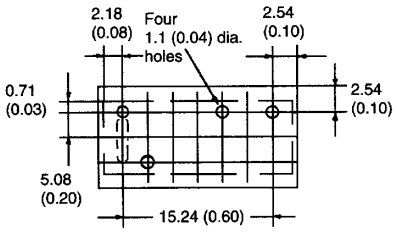
■ Socket

P6D-04P





Mounting holes
(Bottom view)
Tolerance: ±0.1 (0.4)



■ Approvals

• The rated values approved by each of the safety standards may be different from the performance characteristics individually defined in this catalog.

UL Approval (File No. E41515) UL508

Model	Number of poles	Coil ratings	Contact ratings	Number of test operations
G6D-1A-ASI	1	5 to 24 VDC	5 A, 250 VAC (General Use)	6,000
			5 A, 30 VDC	

CSA Approval (File No. LR31928) C22.2 No. 14

Model	Number of poles	Coil ratings	Contact ratings	Number of test operations
G6D-1A-ASI	1	5 to 24 VDC	5 A, 250 VAC (General Use)	6,000
			5 A, 30 VDC (Resistive)	

EN/TÜV Approval (Registration No. R50029064/EN61810-1)

Model	Number of poles	Coil ratings	Contact ratings	Number of test operations
G6D-1A-ASI	1	5, 12, 24 VDC	5 A, 250 VAC (cosϕ=1.0)	70,000
			5 A, 30 VDC (0 ms)	

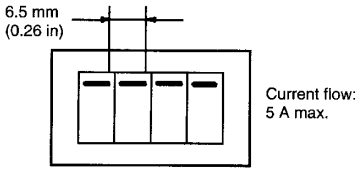
Note: 1. The rated values approved by each of the safety standards (e.g., UL, CSA, TUV) may be different from the performance characteristics individually defined in this catalog.

2. In the interest of product improvement, specifications are subject to change.

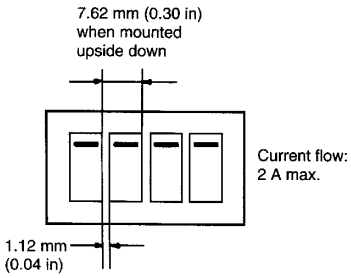
Precautions

■ Spacing Between Relays

More than two relays can be closely mounted right side up as shown in the illustration below.



More than two relays can be closely mounted upside down as shown in the illustration below.



Note: The space between each relay required for heat radiation may vary with operating conditions.

■ Socket Mounting

When mounting the relay, insert it into the socket as vertically as possible so that the relay terminals contact securely with the contact pins on the socket.

The P6D-04P socket is flux-resistant. Do not wash the socket with water.

Remove the relay from the socket before soldering the socket to a PC board.

Mounting height