PCB Power Relay
G6M

Slim, Miniature Relay, Capable of Relaying Programmable Controller and Temperature Controller Outputs

- Slim 5-mm width, and miniature size.
- Reduced mounting area ideal for high-density mounting.
- Highly efficient magnetic circuit for high sensitivity (40% higher than the G6D, with power consumption of 120 mW).
- Satisfies IEC61131-2 and IEC61010 requirements.
- SIL (single-in-line) terminal pitch.
- UL, CSA approved. VDE approval pending.
- RoHS Compliant.

Ordering Information

Classification	Contact form	Enclosure ratings	Model
Standard	SPST-NO	Fully sealed	**G6M-1A**

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

Example: G6M-1A DC 12
Rated coil voltage

Model Number Legend

G6M-□ □ -DC□
1 2 3

1. **Number of Poles**
   1: 1 pole
2. **Contact Form**
   A: SPST-NO
3. **Rated Coil Voltage**
   5, 12, 24 VDC

Specifications

■ Coil Ratings

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	24 mA	10 mA	5 mA
Coil resistance	208 Ω	1,200 Ω	4,800 Ω
Must operate voltage	75% max. of rated voltage		
Must release voltage	5% min. of rated voltage		
Max. voltage	160% of rated voltage (at 23°C)		
Power consumption	Approx. 120 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 maximum allowable voltage is the maximum possible value of the voltage that can be applied to the relay coil. It is not the maximum voltage that can be applied continuously.

4. The must operate voltage is 72% or less of the rated voltage if the relay is mounted vertically and the terminals are pointed downwards.

■ Contact Ratings

Rated load	3 A at 250 VAC, 3 A at 30 VDC
Rated carry current	5 A
Max. switching voltage	270 VAC, 125 VDC
Max. switching current	5 A
Max. switching power	750 VAC, 90 W
Min. permissible load	10 mA at 5 VDC (at 120 operations/min)

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

■ Characteristics

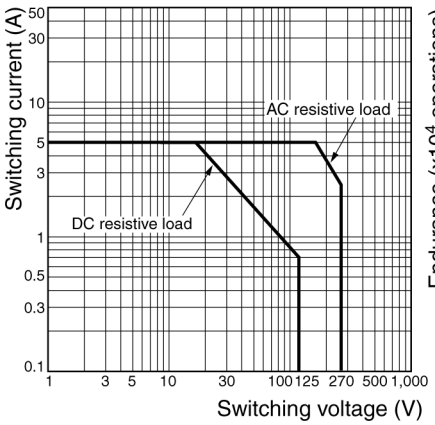
Contact resistance	100 mΩ max.
Operate time	10 ms max.
Release time	5 ms max.
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	3,000 VAC, 50/60 Hz for 1 min between coil and contacts 750 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage	5,080 V (1.2 x 50 μs) between coil and contacts
Vibration resistance	Destruction: 10 to 55 Hz, 2.5-mm single amplitude (5.0-mm double amplitude) Malfunction: 10 to 55 hz, 0.75-mm single amplitude (1.5-mm double amplitude)
Shock resistance	Destruction: 1,000 m/s^2 Malfunction: 100 m/s^2
Endurance	Mechanical: 20,000,000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (3A at 250 VAC/30 VDC, resistive load)
Ambient temperature	Operating: -40° C to 85° C (with no icing)
Ambient humidity	Operating: 5% to 85%
Weight approx.	4 g

■ Approved Standards
UL508 (File No. E41515)/CSA C22.2 (No. 14) (File No. LR31928)

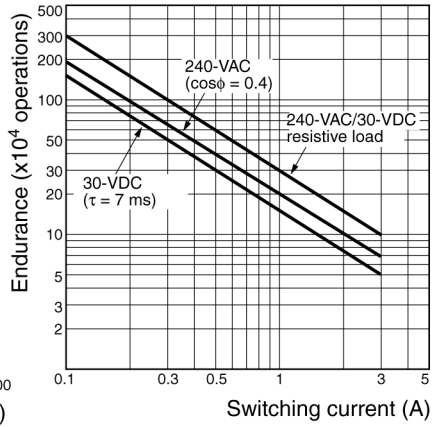
Model	Coil ratings	Contact ratings
G6M-1A	4.5 to 24 VDC	5A, 250 VAC (resistive load, 6,000 operations) 5 A, 24 VDC (resistive load, 6,000 operations) 3 A, 250 VAC (general use, 100,000 operations) 3 A, 24 VDC (general use, 100,000 operations)

Engineering Data

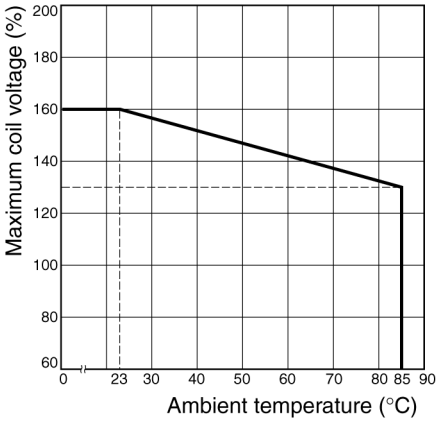
Maximum Switching Power



Endurance



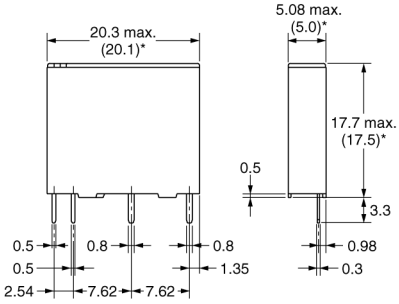
Ambient Temperature vs. Maximum Coil Voltage



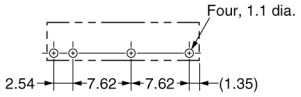
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

G6M-1A



Terminal Arrangement/ Internal Connections (Bottom View)



Mounting Holes (Bottom View)

Tolerance: ±0.1