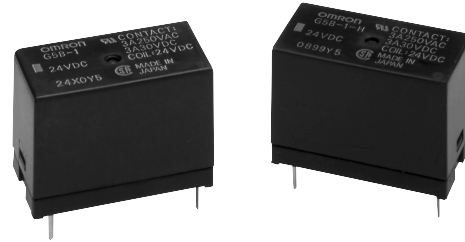


# Miniature Power Relay

# G5B

- Miniature: 22.10 L x 11.43 W x 13.97 H mm  
(0.87 L x 0.45 W x 0.55 in)
- Surge withstand voltage of 10,000 V
- 4,000 V dielectric strength between coil and contacts
- Low power consumption (200 mW)
- Ideal for appliance, HVAC and security market
- Semi-sealed construction



## Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G5B-1-DC12).

Type	Contact form	Part number
Standard	SPST-NO	G5B-1
High-capacity		G5B-1-E
High-sensitivity		G5B-1-H

## Specifications

### CONTACT DATA

Load	Standard, high-sensitivity	High-capacity
	Resistive load (p.f. = 1)	
Rated load	3 A at 125 VAC, 3 A at 30 VDC	8 A at 125 VAC, 8 A at 30 VDC
Contact material	Ag	AgCdO
Carry current	3 A	8 A
Max. operating voltage	250 VAC, 30 VDC	
Max. operating current	3 A	8 A
Max. switching capacity	750 VA, 90 W	2,000 VA, 240 W
Min. permissible load	10 mA at 5 VDC	

## ■ COIL DATA

### Standard/high-capacity

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
3	120	25	70% max.	5% min.	110% at 70°C (158°F)	Approx. 360
5	72	69.4	75% (high-capacity)			
6	60	100				
12	30	400				
18	20	900				
24	15	1600				

### High-sensitivity

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
3	66.6	45	75% max.	5% min.	130% at 70°C (158°F)	200
5	40.0	125				
6	33.3	180				
12	16.7	720				
18	11.1	1080				
24	8.3	2880				

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. The operating characteristics are measured at a coil temperature of 23°C (73°F).

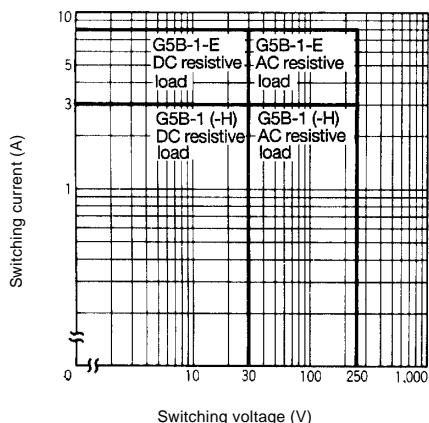
## ■ CHARACTERISTICS

Contact resistance		100 mΩ max.
Operate time		10 ms max. (mean value: approx. 2.6 ms)
Release time		10 ms max. (mean value: approx. 5.6 ms)
Bounce time	Operate	Mean value: approx. 1.8 ms
Operating frequency	Mechanical	18,000 operations/hour
	Electrical	1,800 operations/hour standard/high-sensitivity 1,200 operations/hour high-capacity
Insulation resistance		1,000 MΩ min (at 500 VDC)
Dielectric strength		4,000 VAC, 50/60 Hz for 1 minute between coil and contacts 1,000 VAC, 50/60 Hz for 1 minute between contacts of same polarity
Vibration	Mechanical durability	10 to 55 Hz, 1.52 mm (0.06 in) double amplitude
	Malfunction durability	10 to 55 Hz, 1.52 mm (0.06 in) double amplitude
Shock	Mechanical durability	1,000 m/s <sup>2</sup> (approx. 100 G)
	Malfunction durability	100 m/s <sup>2</sup> (approx. 10 G)
Ambient temperature	Operating/storage	-40° to 70°C (-40° to 158°F)
Humidity		35% to 85% RH
Service life	Mechanical	5,000,000 operations min. (at operating frequency of 15,000 operations/hour)
	Electrical	See "Characteristic Data"
Weight		Approx. 7 g (25 oz)

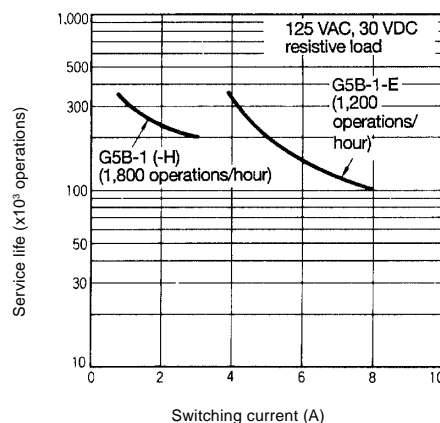
Note: Data shown are of initial value.

## CHARACTERISTIC DATA

### Maximum switching capacity



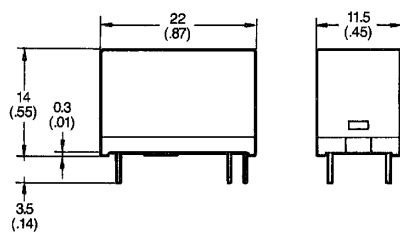
### Service life



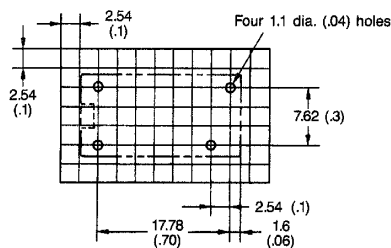
## Dimensions

Unit: mm (inch)

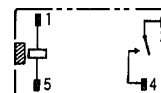
## RELAYS



### PC board dimensions (Bottom view)



### Terminal arrangement/ Internal connections SPST-NO (Bottom view)



- Note: 1. and indicate mounting orientation marks.  
2. Tolerance is  $\pm 0.10$  mm (0.004 in).

## APPROVALS

UL (File No. E41463)/CSA (File No. LR31928)

Type	Contact Form	Coil Ratings	Contact Ratings
G5B-1 G5B-1-H	SPST-NO	3 to 24 VDC	3 A at 250 VAC (General use)
			3 A at 30 VDC (Resistive)
			1/8 HP, 125 VAC
			1/8 HP, 250 VAC
			TV-2, 125 VAC
G5B-1-E	SPST-NO	3 to 24 VDC	8 A at 250 VAC (Resistive)
			8 A at 30 VDC (Resistive)

- Note: 1. The rated values approved by each of the safety standards (e.g., UL, CSA) may be different from the performance characteristics individually defined in this catalog.  
2. In the interest of product improvement, specifications are subject to change.

**NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

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01/00

Specifications subject to change without notice.

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