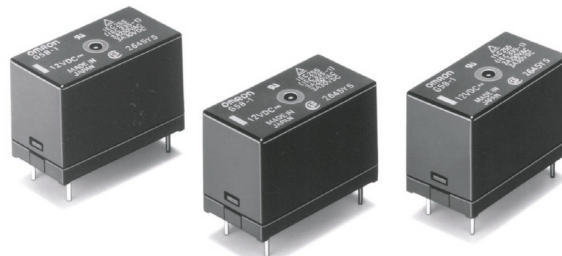


### Single-pole 3-A Miniature Relay

- Impulse withstand voltage of 10 kV (between coil and contacts).
- Models available with 200-mW current consumption (High-sensitivity Type).
- High-capacity (8 A) type available.
- UL/CSA/TÜV approved.



### Ordering Information

Classification	Contact form	Enclosure ratings	Model
Standard	SPST-NO	Flux protection	G5B-1
High-sensitivity			G5B-1-H
High-capacity			G5B-1-E

- Note:**
1. 6 VDC can be also produced.
  2. When ordering, add the rated coil voltage to the model number.  
Example: G5B-1 12 VDC

Rated coil voltage

### Model Number Legend

G5B -  -   VDC  
1 2 3

- 1. Number of Poles**  
1: 1 pole (SPST-NO)
- 2. Classification**  
H: High-sensitivity  
E: High-capacity
- 3. Rated Coil Voltage**  
5, 12, 24 VDC

# Specifications

## ■ Coil Ratings

Item	Standard type, high-capacity type			High-sensitivity type		
Rated voltage	5 VDC	12 VDC	24 VDC	5 VDC	12 VDC	24 VDC
Rated current	72.0 mA	30.0 mA	15.0 mA	40.0 mA	16.7 mA	8.3 mA
Coil resistance	69.4 Ω	400 Ω	1,600 Ω	125 Ω	720 Ω	2,880 Ω
Must operate voltage	Standard type: 70% max. of rated voltage High-capacity type: 75% max. of rated voltage			75% max. of rated voltage		
Must release voltage	5% min. of rated voltage					
Max. voltage	140% (at 23°C)/110% (at 70°C) of rated voltage			160% (at 23°C)/130% (at 70°C) of rated voltage		
Power consumption	Approx. 360 mW			Approx. 200 mW		

## ■ Contact Ratings

Item	Standard type, high-sensitivity type	High-capacity type
Load	Resistive load ( $\cos\phi = 1$ )	
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
Rated carry current	3 A	8 A
Max. switching voltage	250 VAC, 30 VDC	
Max. switching current	3 A	8 A
Max. switching power	750 VA, 90 W	2,000 VA, 240 W
Failure rate (reference value)	5 VDC, 10 mA	5 VDC, 100 mA

Note: P level:  $\lambda_{60} = 0.1 \times 10^{-6}/\text{operation}$  (with an operating frequency of 120 operations/min)

## ■ Characteristics

Contact resistance	100 mΩ max.
Operate time	10 ms max.
Release time	10 ms max.
Insulation resistance	1,000 MΩ max. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min between coil and contacts; 750 VAC, 50/60 Hz for 1 min between contacts of same polarity
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 <sup>2</sup> Malfunction: 100 m/s <sup>2</sup>
Endurance	Mechanical: 5,000,000 operations min. (at 18,000 operations/hr) Electrical: 200,000 operations min. (at 1,800 operations/hr) for standard type, high-sensitivity type 100,000 operations min. (at 1,200 operations/hr) for high-capacity type
Ambient temperature	Operating: -40°C to 70°C (with no icing)
Ambient humidity	Operating: 5% to 85%
Weight	Approx. 7 g

Note: The data shown above are initial values.

## ■ Approved Standards

UL508 (File No. E41643)/CSA C22.2 No.0, No.14 (File No. LR31928)

Model	Coil ratings	Contact ratings
G5B-1, G5B-1-H	3 to 24 VDC	3 A, 250 VAC (general use) 3 A, 30 VDC (resistive) 1/8 hp, 125 VAC/1/8 hp, 250 VAC TV-2 125 VAC

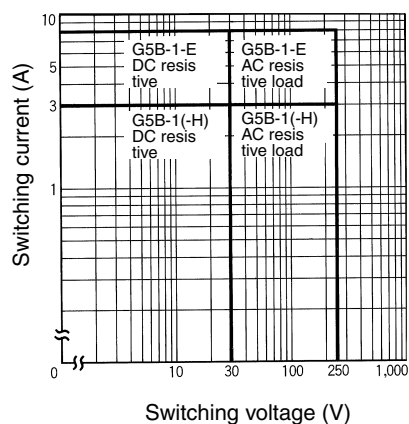
TÜV VDE0435 IEC255 (File No. R9251225)

Model	Coil ratings	Contact ratings	Condition
G5B-1, G5B-1-H	3 to 24 VDC	3 A, 250 VAC~ ( $\cos\phi = 1$ ) 3 A, 30 VDC (0 ms)	Duty level: class III Operative range: 2 Pick-up class: class a Pollution degree: 2 Overvoltage category: II Material group: IIIa Ambient temperature: -40°C to 70°C
G5B-1-E		8 A, 125 VAC~ ( $\cos\phi = 1$ ) 8 A, 30 VDC (0 ms)	

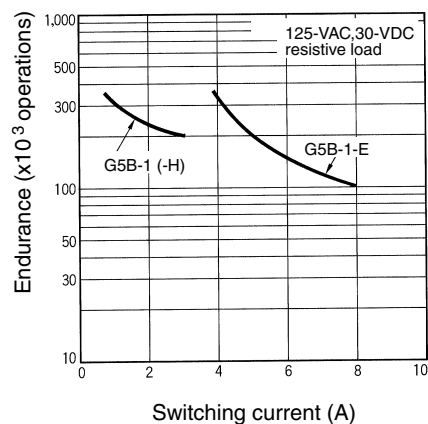
\*Reinforced insulation.

## Engineering Data

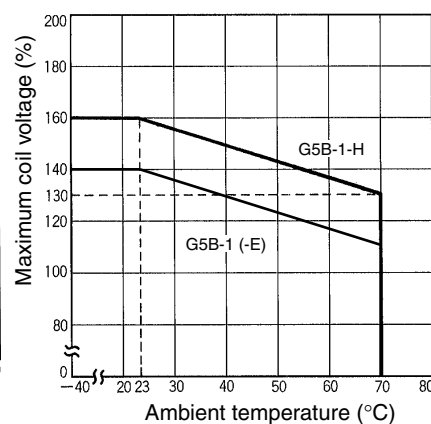
Maximum Switching Power



Endurance



Ambient Temperature vs. Maximum Coil Voltage

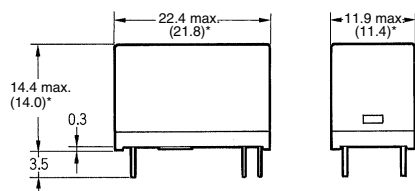
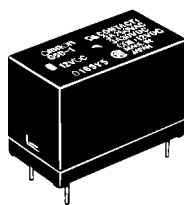


**Note:** The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

## Dimensions

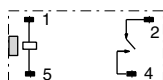
**Note:** 1. All units are in millimeters unless otherwise indicated.

2. Orientation marks are indicated as follows:  

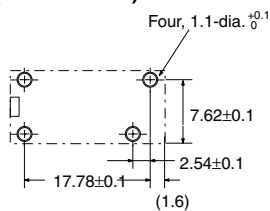


\*Average value.

**Terminal Arrangement/Internal Connections (Bottom View)**



**Mounting Holes (Bottom View)**



**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.