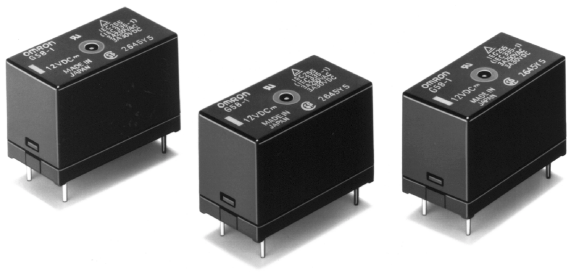
OMRON

PCB Relay

G5B

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.



RCE

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
Min. permissible load	5 VDC, 10 mA	5 VDC, 100 mA

Note: P level: $\lambda_{60} = 0.1 \times 10^{-6}$/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 Hz, 1.5-mm double amplitude Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s^2 Malfunction: 100 m/s^2
Life expectancy	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) Storage: −40°C to 70°C (with no icing)
Ambient humidity	Operating: 35% 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

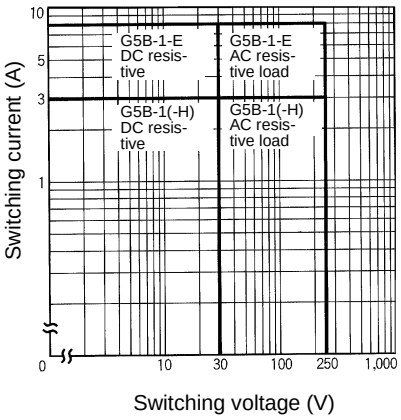
TÜV VDE0435 IEC255 (File No. R9251225)

Model	Coil ratings	Contact ratings	Condition
G5B-1, G5B-1-H	3 to 24 VDC=	3 A, 250 VAC~ (cosϕ = 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~ (cosϕ = 1) 8 A, 30 VDC= (0 ms)	

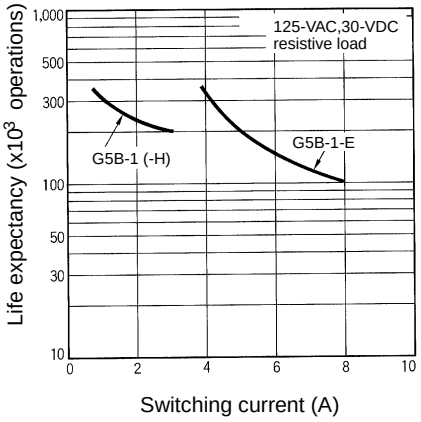
*Reinforced insulation.

Engineering Data

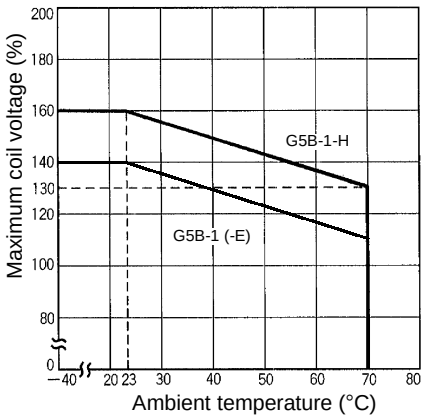
Maximum Switching Power



Life Expectancy



Ambient Temperature vs. Maximum Coil Voltage

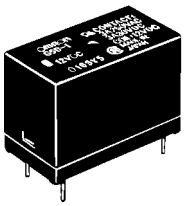


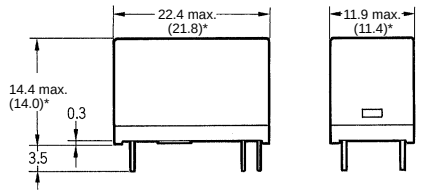
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

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

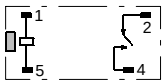
2. Orientation marks are indicated as follows:



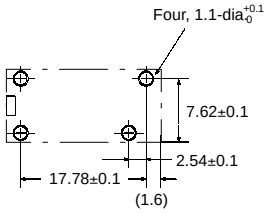


*Average value.

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.

Cat. No. K049-E1-1D