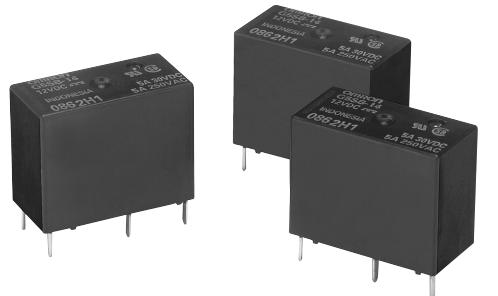


PCB Relay

G5SB

Compact Single-pole Relay for Switching Up to 5 A (Normally Open Contact), Ideal for Fan Control of Air Conditioners, and Heating Control of Small Appliances.

- Environment-friendly, Pb-free/Cd-free.
- Compact SPDT Relay with high insulation between coil and contacts.
- Ensures an impulse withstand voltage of 8,000 V between the coil and contacts.
- UL recognized, CSA certified and VDE (EN) approved.
- RoHS Compliant.



Ordering Information

Classification	Contact form	Protective structure	Model
Standard	SPDT	Fully sealed	G5SB-14

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

Example: G5SB-14 DC12

 |-----|
 |-----|
 Rated coil voltage

■ Model Number Legend

G5SB-□□-DC□

1 2 3

1. Number of Poles

1: SPDT

2. Protective Structure

4: Fully sealed

3. Rated Coil Voltage

5, 9, 12, 24 VDC

Specifications

■ Coil Ratings

Rated voltage	5 VDC	9 VDC	12 VDC	24 VDC
Rated current	80 mA	44.4 mA	33.3 mA	16.7 mA
Coil resistance	63 Ω	202 Ω	360 Ω	1,440 Ω
Must operate voltage	75% max. of rated voltage			
Must release voltage	5% min. of rated voltage			
Maximum voltage	150% of rated voltage at 23°C			
Power consumption	Approx. 400 mW			

■ Contact Ratings

Load	Resistive load
Rated load	3 A (NO)/3 A (NC) at 125 VAC 5 A (NO)/3 A (NC) at 125 VAC 5 A (NO) at 250 VAC 3 A (NC) at 250 VAC 5 A (NO)/3 A (NC) at 30 VDC
Contact material	Ag alloy
Rated carry current	5 A (NO)/3 A (NC)
Max. switching voltage	250 VAC, 30 VDC
Max. switching current	5 A (NO)/3 A (NC)
Max. switching capacity	1,250 VA, 150 W (NO) 750 VA, 30 W (NC)
Min. permissible load	10 mA at 5 VDC

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

■ Characteristics

Contact resistance (See note 2.)	100 mΩ max. initial
Operate time (See note 3.)	10 ms max.
Release time (See note 3.)	5 ms max.
Insulation resistance (See note 4.)	1,000 MΩ min.
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between coil and contacts 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage	8 kV (1.2 x 50 µs)
Vibration resistance	Destruction: 10 to 55 Hz, 0.75-mm single amplitude (1.5-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 (approx. 100G) Malfunction: Energized: 100 m/s ² (approximately 10G) Non-energized: 100 m/s ² (approximately 10G)
Life expectancy (See note 5.)	Mechanical: 5,000,000 operations (18,000 operations per hour) Electrical: 200,000 operations: 3 A (NO)/3 A (NC) at 125 VAC resistive load 50,000 operations: 5 A (NO)/3 A (NC) at 125 VAC resistive load 50,000 operations: 5 A (NO) at 250 VAC resistive load 10,000 operations: 3 A (NC) at 250 VAC resistive load 10,000 operations: 5 A (NO)/3 A (NC) at 30 VDC resistive load Switching frequency: 1,800 operations per hour
Ambient temperature	Operating: -40°C to 70°C with no icing or condensation
Ambient humidity	Operating: 5% to 85%
Weight	Approx. 6.5 g

Note: 1. The data shown above are initial values.

2. The contact resistance is possible with 1 A applied at 5 VDC using a fall-of-potential method.
3. The operating time is possible with the operating voltage imposed with no contact bounce at an ambient temperature of 23°C.
4. The insulation resistance is possible between coil and contacts and between contacts of the same polarity at 500 VDC.
5. The electrical life data items shown are possible at 23°C.

■ Approved Standards

UL Recognized (File No. E41515) / CSA Certified (File No. LR31928) - - Ambient Temp = 40°C

Model	Coil ratings	Contact ratings	Number of test operations
G5SB	5 to 24 VDC	3 A, 125 VAC (resistive) NC only 2 A, 125 VAC (resistive) NC only 5 A, 250 VAC (resistive) NO only 3 A, 250 VAC (resistive) NO only 5 A, 30 VDC (resistive) NO only	6,000

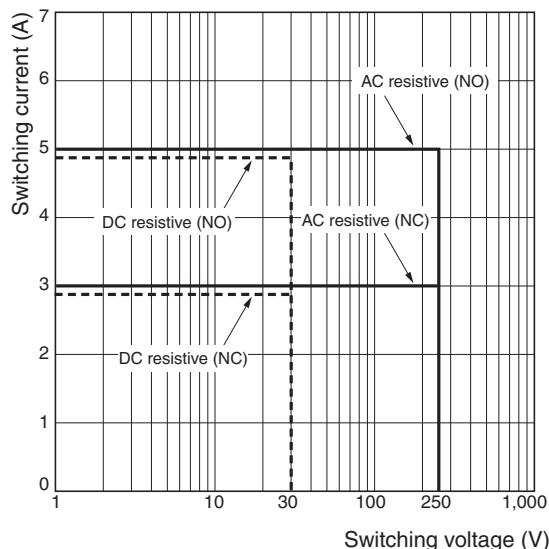
Note: Electrical durability tests are performed at 70°C.

VDE (EN61810-1) Approval No. 400003957

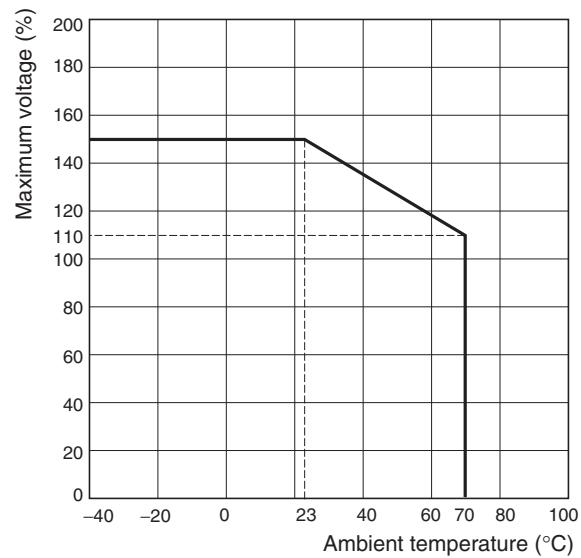
Model	Coil ratings	Contact ratings	Number of test operations
G5SB	5, 12, 24 VDC	5 A (NO) / 3 A (NC), 250 VAC	10,000

Engineering Data

Max. Switching Capacity

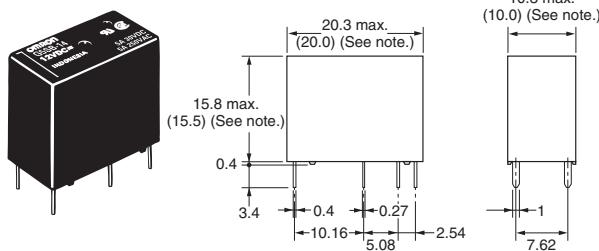


Ambient Temperature vs. Maximum Voltage



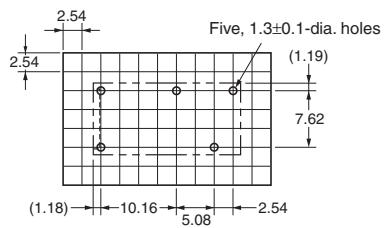
Dimensions

Unit: mm

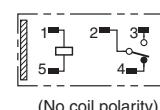


Note: Values in parentheses are average values.

PCB Mounting Holes (Bottom View)

Tolerance: ± 0.1 mm

Terminal Arrangement/ Internal Connections (Bottom View)



(No coil polarity)

All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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