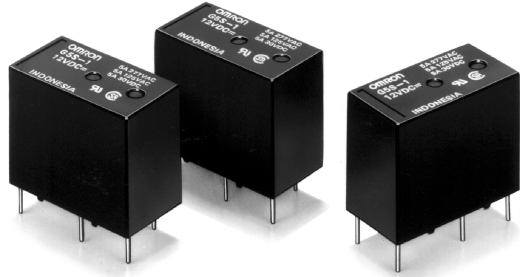


Compact Single-pole Relay for Switching 5 A (Normally Open Contact), Fan Control of Air Conditioners, and Heating Control of Small Appliances.

- Compact SPDT Relay with high insulation.
- Incorporates a normally open contact that switches 5 A max.
- Ensures a withstand impulse voltage of 8,000 V between the coil and contacts.
- Conforms to UL, CSA, and IEC (TÜV).
 - UL508
 - CSA C22.2 (No.14)
 - IEC 255, VDE0435



RCE

Ordering Information

Classification	Contact form	Enclosure ratings	Model
Standard	SPDT	Fully sealed	G5S-1

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

Example: G5S-1 12VDC

Rated coil voltage

Model Number Legend

G5S-j₁ j₂ VDC

1. Number of Poles

1: 1 pole (SPDT)

2. Rated Coil Voltage

5, 12, 24, 48 VDC

Specifications

■ Coil Ratings

Rated voltage	5 VDC	12 VDC	24 VDC	48 VDC
Rated current	80 mA	33.3 mA	16.7 mA	8.3 mA
Coil resistance	62.5 Ω	360 Ω	1,440 Ω	5,760 Ω
Must operate voltage	75% max. of rated voltage			
Must release voltage	5% min. of rated voltage			
Max. voltage	110% of rated voltage			
Power consumption	Approx. 400 mW			

■ Contact Ratings

Load	Resistive load	Inductive load
Rated load	2 A (NO)/2 A (NC) at 277 VAC 1 A (NO)/1 A (NC) at 250 VAC 5 A (NO)/3 A (NC) at 125 VAC 3 A (NO)/3 A (NC) at 125 VAC 5 A (NO)/3 A (NC) at 30 VDC	0.5 A at 250 VAC, $\cos\phi=0.4$ 1 A at 250 VAC, $\cos\phi=0.8$ 0.8 A at 250 VAC, $\cos\phi=0.9$
Contact material	Ag	
Rated carry current	5 A (NO)/3 A (NC)	
Max. switching voltage	277 VAC, 30 VDC	
Max. switching current	5 A (NO)/3 A (NC)	1 A
Max. switching power	625 VA, 150 W (NO) 375 VA, 90 W (NC)	250 VA
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 note2)	100 m Ω max.
Operate time (see note3)	10 ms max.
Release time (see note3)	5 ms max.
Insulation resistance (see note4)	1,000 M Ω min. (at 500 VDC)
Dielectric strength	4,000 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	8,000 V (1.2 x 50 μ s) between coil and contacts
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: Energized: 100 m/s ² Non-energized: 50 m/s ²
Life expectancy (see note 5)	Mechanical: 5,000,000 operations (18,000 operations per hour) Electrical: 200,000 operations: 1 A (NO)/1 A (NC) at 277-VAC resistive load 3 A (NO)/3 A (NC) at 125-VAC resistive load 100,000 operations: 0.8 A (NO)/0.8 A (NC) at 250 VAC, $\cos\phi=0.9$ 5 A (NO)/3 A (NC) at 30-VDC resistive load 50,000 operations: 2 A (NO)/2 A (NC) at 277-VAC resistive load 5 A (NO)/3 A (NC) at 125-VAC resistive load Switching frequency: 1,800 operations per hour
Ambient temperature	Operating: -40°C to 70°C (with no icing)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 6.4 g

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

■ Approved Standards

UL508 (File No. E41515)

CSA C22.2 (No. 14) (File No. LR31928)

Model	Coil ratings	Contact ratings	Number of test operations
G5S-1	5 to 48 VDC	0.8 A, 277 VAC (resistive) 0.5 A, 250 VAC (resistive) 2 A, 120 VAC (resistive) 2 A, 30 VDC (resistive) 5 A, 125 VAC (resistive) 1/10 hp, 125 VAC (resistive) 5 A, 277 VAC (resistive) 1/6 hp, 277 VAC (resistive) 0.3 A, 110 VDC (resistive) 5 A, 30 VDC (resistive)	6,000

TÜV (IEC 255, VDE0435 File No. R9650783)

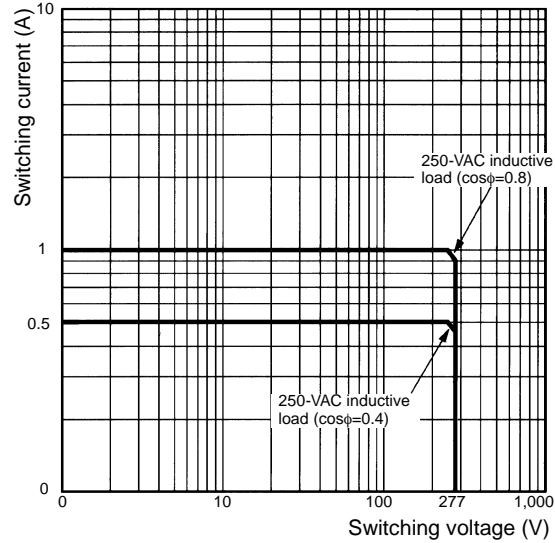
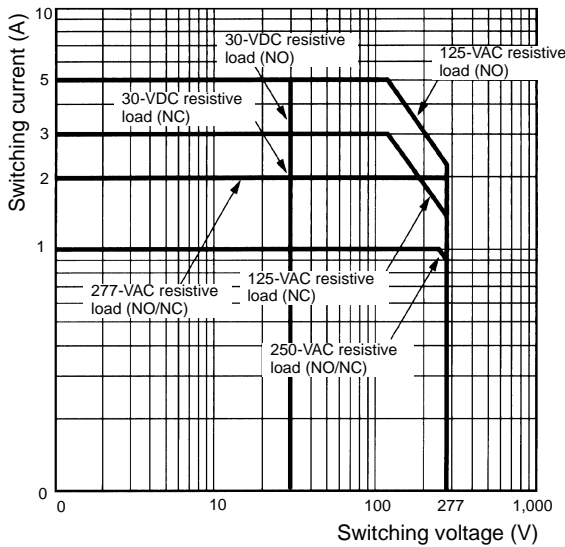
Electrical life tests are performed at 70°C.

Model	Coil ratings	Contact ratings	Number of test operations
G5S-1	5 to 48 VDC	1.5 A, 277 VAC (resistive) 1 A, 250 VAC (resistive) 2 A, 30 VDC (resistive)	30,000 100,000 30,000
		1 A, 250 VAC, $\cos\phi=0.8$ 0.5 A, 250 VAC, $\cos\phi=0.4$ 1 A, 250 VAC, $\cos\phi=0.8$ (NO only) 1 A, 250 VAC, $\cos\phi=0.8$ (NC only)	100,000 30,000 200,000 200,000

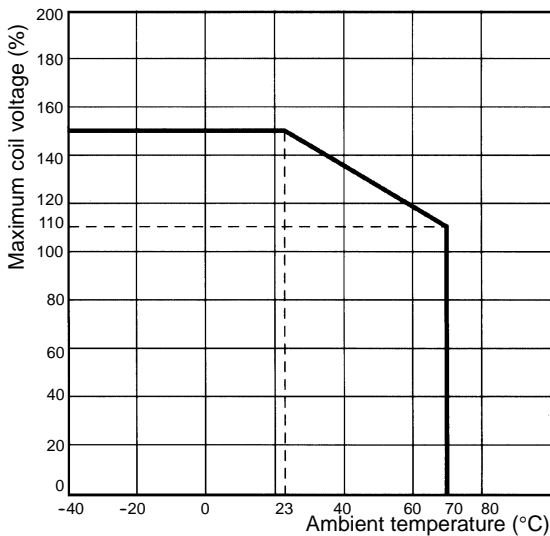
Note: Pollution Degree 2, Overvoltage Category II, Material Group III

Engineering Data

Maximum Switching Power

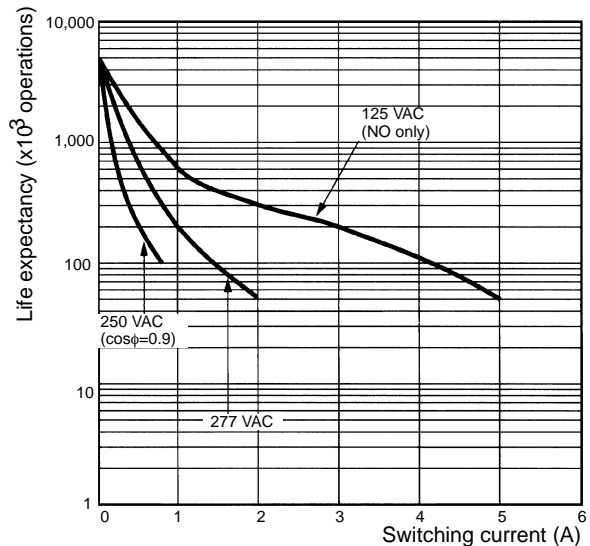


Ambient Temperature vs. Maximum Coil Voltage



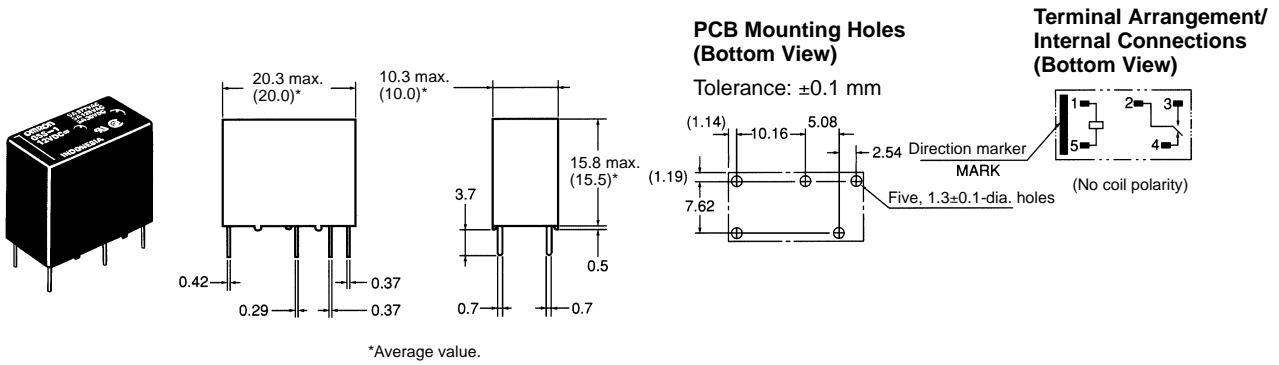
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Life Expectancy



Dimensions

Note: All units are in millimeters unless otherwise indicated.



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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