

Power Relay G6RN

Heavy-duty Miniature Relay

- Incorporates environmentally-friendly, cadmium-free contacts.
- Variety of contact forms: SPDT or SPST-NO (continuous current rating: 8 A).
- Low profile (0.39 W x 1.12 L x 0.59 H inches)
- High dielectric strength of 4 kV with 8 mm creepage/clearance.
- Sealed plastic construction.
- Ideal for switching contactors, solenoids and motors.
- RoHS Compliant.



Ordering Information

| Classification | Structure | Contact material | Contact form | |
|----------------|----------------|-------------------------|--------------|--------|
| | | | SPST-NO | SPDT |
| Standard | Plastic-sealed | Ag-Alloy + gold plating | G6RN-1A | G6RN-1 |

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

Example: G6RN-1A DC24
└─── Rated coil voltage

Model Number Legend

G6RN- - DC

1 2 3

1. Number of Poles

1: 1 pole

2. Contact Form

None: SPDT

A: SPST-NO

3. Rated Coil Voltage

5, 12, 24, 48

Specifications

Coil Ratings

| | | | | |
|----------------------|---------------------------|---------|---------|----------------|
| Rated voltage | 5 VDC | 12 VDC | 24 VDC | 48 VDC |
| Rated current | 43.9 mA | 18.3 mA | 9.2 mA | 5.2 mA |
| Coil resistance | 114 Ω | 655 Ω | 2,620 Ω | 9,210 Ω |
| Must operate voltage | 70% max. of rated voltage | | | |
| Must release voltage | 10% min. of rated voltage | | | |
| Max. voltage | 110% of rated voltage | | | |
| Power consumption | Approx. 220 mW | | | Approx. 250 mW |

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.

2. Operating characteristics are measured at a coil temperature of 23°C.

■ Contact Ratings

| | |
|-------------------------------------|------------------------------------|
| Contact material | Ag-Alloy + gold plating (standard) |
| Rated switching current (resistive) | 8 A at 250 VAC 5 A at 30 VDC |
| Rated carry current | 8A |
| Max. switching voltage | 250 VAC, 30 VDC |
| Max. switching capacity | 2,000 VA, 150 W |
| Min. permissible load | 10 mA, 5 VDC |

Note: P level: $\lambda_{60} = 0.1 \times 10^{-6}$ operation

■ Characteristics

| | | |
|--------------------------|--------------------------------------|--|
| Contact resistance | 100 mΩ max. | |
| Operate time | Approx. 6 ms | |
| Release time | Approx. 3 ms | |
| Max. operating frequency | Mechanical | 36,000 operations/hr |
| | Electrical | 360 operations/hr (under rated load) |
| Insulation resistance | 1,000 MΩ min. | |
| Dielectric strength | 4,000 VAC: between coil and contacts | |
| | 1,000 VAC: between contacts | |
| Creepage/clearance | 8 mm min. between coil and contacts | |
| Vibration resistance | Malfunction | NO: 10 to 55 Hz, 1.5 mm double amplitude |
| | | NC: 10 to 55 Hz, 0.8 mm double amplitude |
| Shock resistance | Destruction | 1,000 m/s ² (approx. 100 G) |
| | Malfunction | NO: 100 m/s ² (approx. 10 G) NC: 50 m/s ² (approx. 5 G) |
| Life expectancy | Mechanical | 10,000,000 operations min. |
| | Electrical | 50,000 operations (Typ. 100,000 operations - see note) |
| Ambient temperature | Operating | -40°C to 85°C |
| | Storage | -40°C to 85°C |
| Ambient humidity | Operating | 5% to 85% |
| Weight | Approx. 9 g | |
| Protection class | II according to VDE0106 Part 1 | |
| Insulation class | C/250, B/380 according to VDE0110 | |

Note: Resistive load test at 250 VAC, 8 A, room temperature with diode.
Continuous monitoring must be performed to detect contact sticking and short circuit.
Dielectric strength measured at 500 V for 1 minute with the same polarity.

■ Approved Standards

VDE (EN61810-1)

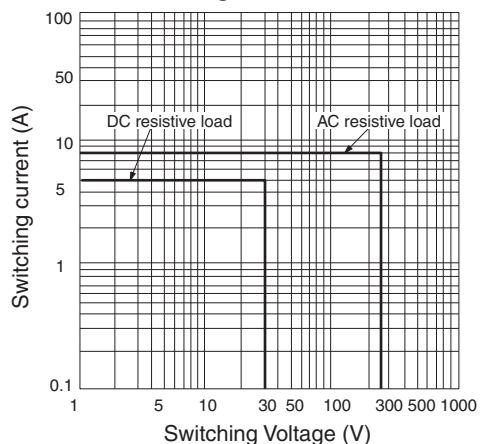
| Contact form | Coil ratings | Contact ratings |
|-----------------|-------------------|--------------------------|
| SPDT SPST-NO | 5, 12, 24, 48 VDC | 8 A at 250 VAC (cosφ =1) |

UL Recognized (File No. E41515) /CSA Certified (File No. LR31928-543) - - Ambient Temp. = 40°C

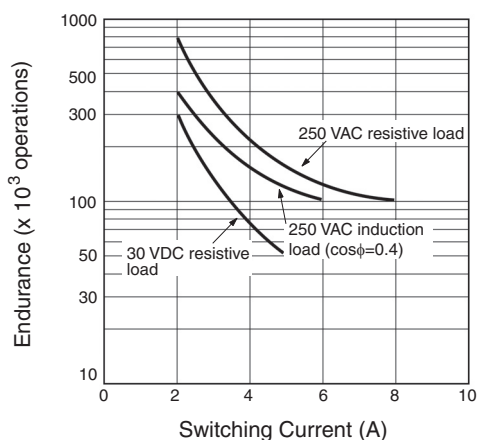
| Coil ratings | Contact ratings |
|-------------------|--|
| 5, 12, 24, 48 VDC | 250 VAC, 10 A resistive 250 VAC, 8 A resistive, 85°C 30 VDC, 5 A resistive |

Engineering Data

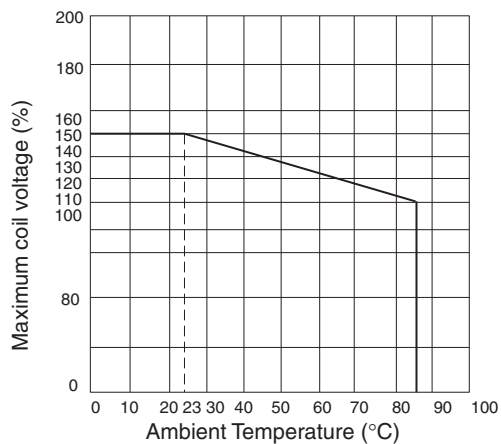
Maximum Switching Power



Endurance



Ambient Temperature vs Maximum Coil Voltage

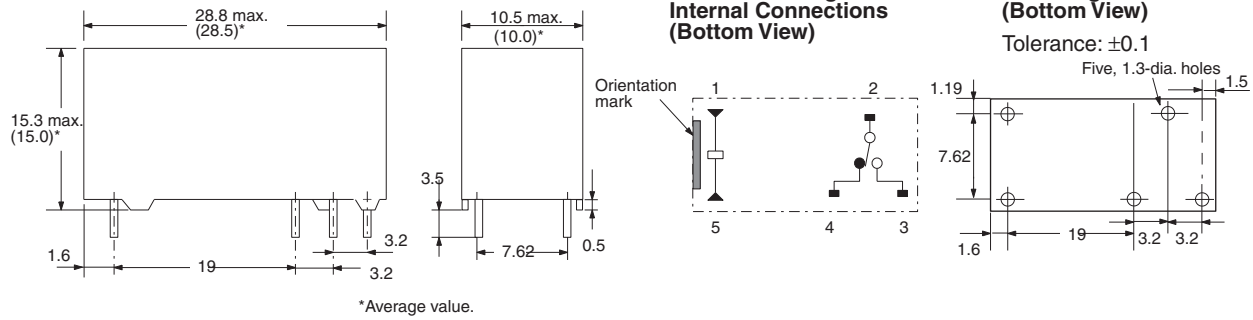
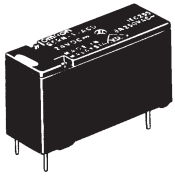


Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

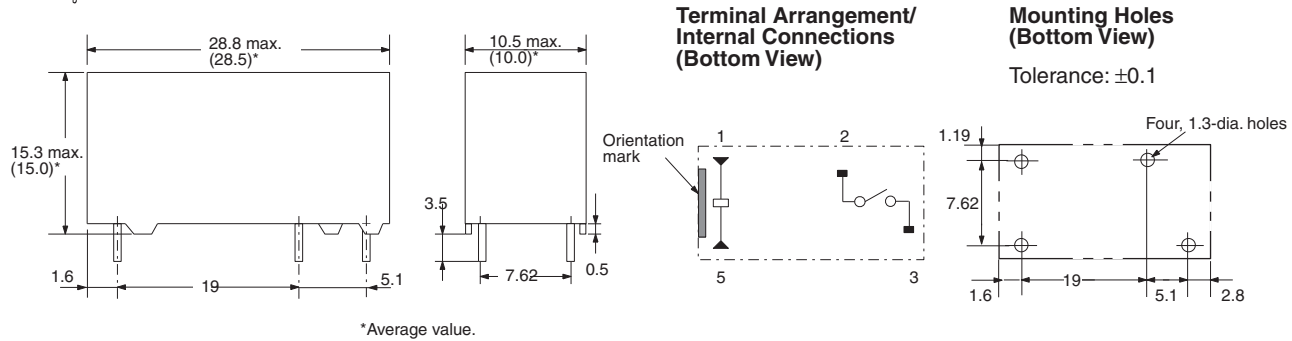
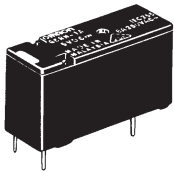
Dimensions

Unit: mm

■ SPDT Type



■ SPST-NO Type



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