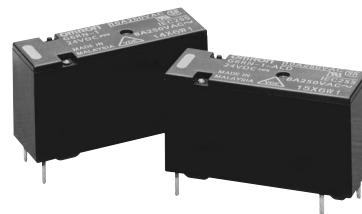


Power Relay G6RN

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 | AgNi + gold plating | G6RN-1A | G6RN-1 |

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

Example: G6RN-1A 24 VDC

Rated coil voltage

Model Number Legend

G6RN- □ □ □ □ - □
1 2 3 4 5 6

1. Number of poles

1: 1 pole

2. Contact form

None: SPDT

A: SPST-NO

3. Contact type

None: Single contact

4. Enclosure ratings

None: Plastic-sealed

5. Terminals

None: Standard PCB

6. Contact material

None: AgNi + gold plating

Specifications

■ Coil Ratings

| | | | | | |
|----------------------|---------------------------|--------------|--------------|----------------|----------------|
| Rated voltage | 5 VDC | 6 VDC | 12 VDC | 24 VDC | 48 VDC |
| Rated current | 44 mA | 36.7 mA | 18.3 mA | 9.2 mA | 5.2 mA |
| Coil resistance | 114 Ω | 164 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 $\pm 10\%$.
2. Operating characteristics are measured at a coil temperature of 23°C.

■ Contact Ratings

| | |
|-------------------------|---------------------------------|
| Contact type | Single contact |
| Configuration | SPDT, SPST-NO |
| Contact material | AgNi + gold plating (standard) |
| Max. switching voltage | 250 VAC, 125 VDC |
| Rated switching current | 8 A at 250 VAC 5 A at 30 VDC |
| Max. switching capacity | 2,000 VA, 150 W |
| Min. permissible load | 10 mA, 5 VDC |

Note: Current value for switching 125 VDC is 0.15 A resistive and 0.1 A inductive (L/R = 7 ms).

■ Characteristics

| | | |
|--------------------------|--------------------------------------|--|
| Contact resistance | 100 m Ω 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 M Ω 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 | 100 m/s ² (approx. 10 G) |
| Life expectancy | Mechanical | 10,000,000 operations min. |
| | Electrical | Approx. 100,000 operations (see note) |
| Ambient temperature | Operating | -40°C to 85°C |
| | Storage | -40°C to 85°C |
| Ambient humidity | Operating | 35% to 85% |
| Weight | Approx. 9 g | |
| Protection class | II according to VDE0106 Part 1 | |
| Insulation class | C/250 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

IEC255 (Includes Reinforced Insulation and Spacing Requirements According to IEC65, 335-1, 940, EN60335-1, 60950)

| Standard | Contact form | Coil ratings | Contact ratings | Conditions |
|----------------------------|-----------------|-------------------------|---------------------------------------|---|
| IEC255-1-00 IEC255-0-20 | SPDT SPST-NO | 5, 6, 12, 24, 48 VDC | 8 A at 250 VAC (cosφ=1) (see note) | Pollution degree: 3 Overvoltage category: II Operating range: class 1 Pick-up class: class C Ambient temperature: -40°C to 85°C |

Note: VAC according to IEC417.

VDE

| Standard | Contact form | Coil ratings | Contact ratings | Conditions |
|------------------------------------|-----------------|-------------------------|-------------------------|---|
| VDE0435 Part201 VDE0435 Part120 | SPDT SPST-NO | 5, 6, 12, 24, 48 VDC | 8 A at 250 VAC (cosφ=1) | Insulation group according to VDE0110 C/250 Operating range: class 1 Pick-up class: class C Ambient temperature: -40°C to 85°C |

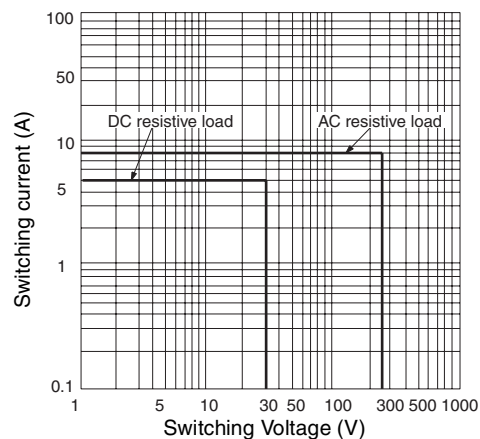
UL File No. E41515

CSA (File No. LR31928)

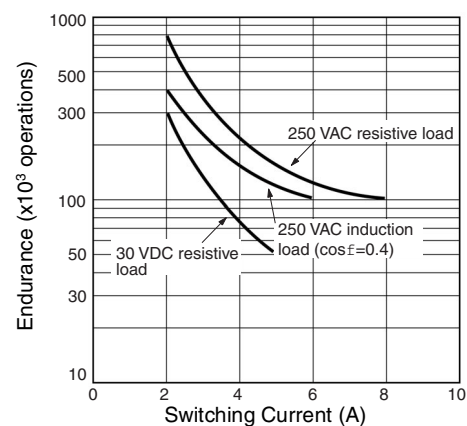
| Standard | Contact form | Coil ratings | Contact ratings |
|----------|-----------------|----------------------|--|
| UL508 | SPDT SPST-NO | 5, 6, 12, 24, 48 VDC | 250 VAC, 10 A resistive 250 VAC, 8 A resistive, 85°C 30 VDC, 5 A |

Engineering Data

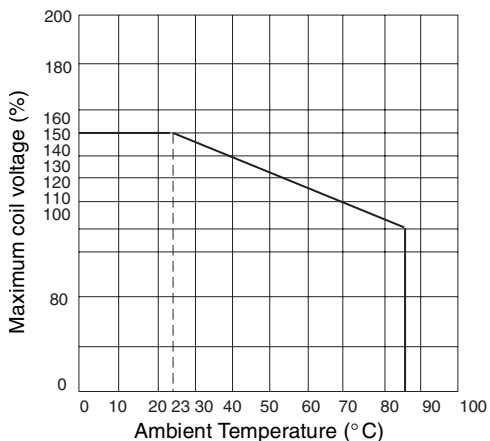
Maximum Switching Power



Endurance



Ambient Temperature vs Maximum Coil Voltage

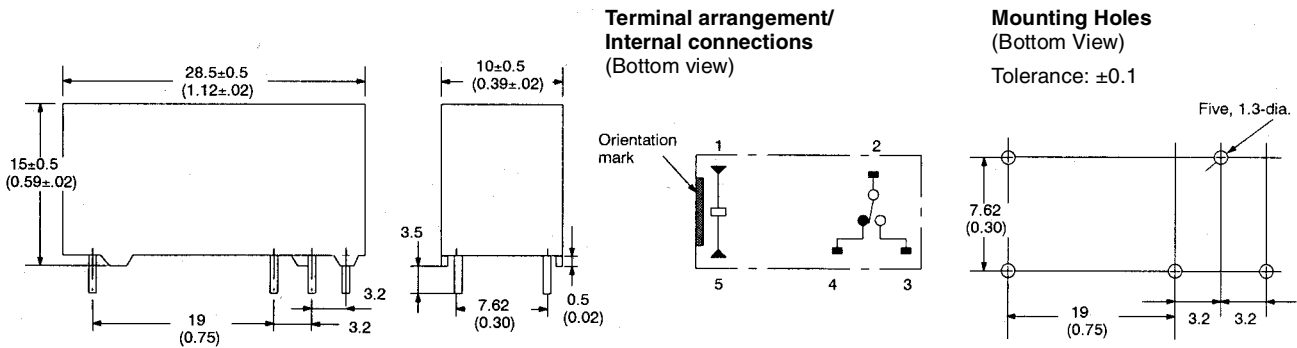


Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

Dimensions

Unit: mm (inch)

■ SPDT Type



■ SPST-NO Type

