

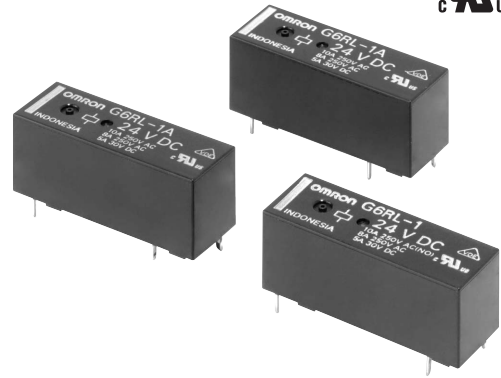
G6RL

PCB Power Relay



Low-profile 12.3 mm height power relay with maximum switching of 10A

- Low profile: 12.3 mm in height
- Max. switching capacity: 2,500 VA (NO)
- Dielectric strength: 5 kV
- Clearance and creepage distance: 10 mm.
- Models with high shock resistance (250 m/s²) are available.
- Models for P1 load (2 x 200 W lamps parallel to ignition transformer) are available.



RoHS Compliant

Model Number Legend

G6RL-□□□-□□-□□
1 2 3 4 5

1. Number of Poles

1: 1-pole

2. Contact Form

None: SPDT (1c)
A: SPST-NO (1a)

3. Enclosure rating

None: Flux protection
4: Fully sealed

4. Contact material

None: Standard (Ag-alloy, Cd free)
ASI: AgSnIn

5. Special Functions

PL: P1 load

Application Examples

- Boilers
- PLCs
- I/O ports
- Timers
- Temperature controllers

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Ordering Information

| Classification | Terminal Shape | Contact form | Enclosure rating | Model | Rated coil voltage | Minimum packing unit |
|----------------|----------------|--------------|------------------|--|---|----------------------|
| Standard | PCB terminals | SPST-NO (1a) | Flux protection | G6RL-1A G6RL-1A-ASI G6RL-1A-ASI-PL | 3 VDC 5 VDC 6 VDC 12 VDC 24 VDC 48 VDC | 100 pcs/tray |
| P1 Load | | | Fully sealed | G6RL-1A4-ASI | | |
| Standard | | SPDT (1c) | Flux protection | G6RL-1 G6RL-1-ASI G6RL-1-ASI-PL | | |
| P1 Load | | | Fully sealed | G6RL-14-ASI | | |
| Standard | | | | | | |

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

Example: G6RL-1A DC3

Rated coil voltage

However, the notation of the coil voltage on the product case as well as on the packing will be marked as □□VDC.

Ratings

Coil

Standard, P1 Load (-PL type)

| Rated Voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Must operate voltage (V) | Must release voltage (V) | Max. voltage (V) | Power consumption (mW) |
|---------------------|--------------------|---------------------|--------------------------|--------------------------|------------------|------------------------|
| | | | % of rated voltage | | | |
| 3 | 73.3 | 40 | 70% max. | 10% min. | 150% (at 23°C) | Approx. 220 |
| 5 | 44 | 113 | | | | |
| 6 | 36.7 | 163 | | | | |
| 12 | 18.3 | 654 | | | | |
| 24 | 9.2 | 2618 | | | | |
| 48 | 5 | 9600 | | | | Approx. 240 |

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

Note 2. The operating characteristics are measured at a coil temperature of 23°C.

Note 3. The "Max. voltage" is the maximum voltage that can be applied to the relay coil.

●Contacts

| Load | Resistive load |
|------------------------|---|
| Contacts type | Single |
| Contacts material | Ag-alloy (Cd free) |
| Rated load * | 10 A at 250 VAC, (NO) resistive load 8 A at 250 VAC, resistive load 5 A at 30 VDC, resistive load |
| Rated carry current | 10 A |
| Max. switching current | NO: 10 A, NC: 8 A |

* G6RL-1(A), G6RL-1(A)4-ASI: 8 A 250 VAC, resistive load; 5 A 24 VDC resistive load.

■Characteristics

| | | |
|---|---------------------------------------|---|
| Contact resistance *1 | | 100 mΩ max. |
| Operate time | | 10 ms max. |
| Release time | | 5 ms max. |
| Insulation resistance *2 | | 1,000 Ω min. |
| Dielectric strength | Between coil and contacts | 5,000 VAC, 50/60 Hz for 1 min |
| | Between contacts of the same polarity | 1,000 VAC, 50/60 Hz for 1 min |
| Impulse withstand voltage | Between coil and contacts | 10kV (1.2×50μs) |
| Insulation distance | Between coil and contacts | Clearance: 10 mm, Creepage: 10 mm |
| Vibration resistance | Destruction | 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) |
| | Malfunction | 10 to 55 to 10 Hz, 0.825 mm single amplitude (1.65 mm double amplitude) when energized 10 to 55 to 10 Hz, 0.4 mm single amplitude (0.8 mm double amplitude) when de-energized. |
| Shock resistance | Destruction | 1,000 m/s ² |
| | Malfunction | NO: 200 m/s ² , NC: 50 m/s ² |
| Endurance | Mechanical | 10,000,000 operations min. (at 18,000 operations/h) |
| | Electrical | G6RL-1(A) 50,000 operations min. (NO) at 250 VAC, 8A (resistive load) 50,000 operations min. (NC) at 250 VAC, 8A (resistive load) 50,000 operations min. at 24 VDC, 5A (resistive load) (at 600 operations/h) G6RL-1(A)-ASI-(PL) 100,000 operations min. (NO) at 250 VAC, 10A (resistive load) 100,000 operations min. at 250 VAC, 8A (resistive load) 50,000 operations min. at 30 VDC, 5A (resistive load) (at 1,800 operations/h) G6RL-1(A)4-ASI 50,000 operations min. (NO) at 250 VAC, 8A (resistive load) 50,000 operations min. (NC) at 250 VAC, 8A (resistive load) 50,000 operations min. at 24 VDC, 5A (resistive load) (at 1,800 operations/h) |
| Failure rate (P level) (reference value) *3 | | 10 mA at 5 VDC |
| Ambient operating temperature | | -40°C to 85°C (with no icing or condensation) |
| Ambient operating humidity | | 5% to 85% |
| Weight | | Approx. 7.8 g |

Note. The given values are initial values.

*1. Measurement conditions: 5 VDC, 1 A, voltage drop method.

*2. Measurement conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the dielectric strength was measured.

*3. This value was measured at a switching frequency of 120 operations/min.