Cubic, Single-pole 10A Power Relay

- Ideal for a wide variety of applications such as home appliances, OA equipments, vending machines, etc.
- Ambient Operating Temperature 85°C
- UL class-B coil insulation for standard model.
- UL, CSA, EN standards approved and conforms to Electrical Appliance and Material Safety Law (300 V max.).

RoHS Compliant

Model Number Legend

G5LE-1

1. Number of Poles
   - 1: 1-pole

2. Contact Form
   - None: SPDT (1c)
   - A: SPST-NO (1a)

Ordering Information

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Enclosure rating</th>
<th>Flux protection</th>
<th>Fully sealed</th>
<th>Minimum packing unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB terminals</td>
<td>Contact form</td>
<td>Rated coil voltage</td>
<td>Model</td>
<td>Model</td>
</tr>
<tr>
<td>Standard</td>
<td>SPDT (1c)</td>
<td>G5LE-1</td>
<td>5 VDC</td>
<td>6 VDC</td>
</tr>
<tr>
<td></td>
<td>SPST-NO (1a)</td>
<td>G5LE-1A</td>
<td>12 VDC</td>
<td>12 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G5LE-14</td>
<td>24 VDC</td>
<td>24 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G5LE-1A4</td>
<td>12 VDC</td>
<td>12 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G5LE-1A</td>
<td>24 VDC</td>
<td>24 VDC</td>
</tr>
</tbody>
</table>

Note. When ordering, add the rated coil voltage to the model number. Example: G5LE-1 5 VDC

Characteristics

- Contact resistance *1: 100 mΩ max.
- Vibration resistance: 4,500 V (1.2×50 μs)
- Impulse withstand voltage: 2,000 VAC, 50/60 Hz for 1 min
- Dielectric strength: Between coil and contacts 750 VAC, 50/60 Hz for 1 min

Ratings

- Coil
  - Rated voltage 5 VDC, 12 VDC, 24 VDC
  - Rated current (mA) 79.4, 33.3, 16.7
  - Coil resistance (Ω) 63, 360, 1,440
  - Must operate voltage (V) 75% max.
  - Must release voltage (V) 10% min.
  - Max. voltage (V) 170% at 23°C
  - Power consumption (mW) Approx. 400

- Contacts
  - Contact type Single
  - Contact material Ag-alloy (Cd free)
  - Rated load 10 A at 120 VAC, 8 A at 30 VDC, 5 A at 120 VAC, 4 A at 30 VDC
  - Rated carry current 10 A
  - Max. switching voltage 250 VAC, 125 VDC (30 VDC when UL/CSA standard is applied)
  - Max. switching current 10 A

Note. *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.
### Engineering Data

#### Maximum Switching Capacity

- **Switching Current (V)**
  - AC resistive load
  - DC resistive load
  - AC inductive load (cos φ = 0.4)

- **Switching Voltage (V)**
  - DC resistive load
  - AC resistive load
  - AC inductive load (cos φ = 0.4)

#### Durability

- **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.

#### Shock Malfunction

- **Number of Relays**: 5 pcs
- **Test Conditions**: Shock was applied 3 times in each direction with and without excitation and the level at which the shock caused malfunction was measured.
- **Rating**: 100 m/s²

### Dimensions

#### G5LE-1

- **SPDT (1c)**
  - Terminal arrangement:
  - Internal connections:
  - PCB mounting holes:

#### G5LE-1A

- **SPDT (1c)**
  - Terminal arrangement:
  - Internal connections:
  - PCB mounting holes:

#### G5LE-14

- **SPST-NO (1a)**
  - Terminal arrangement:
  - Internal connections:
  - PCB mounting holes:

#### G5LE-1A4

- **SPST-NO (1a)**
  - Terminal arrangement:
  - Internal connections:
  - PCB mounting holes:

Note: Orientation marks are indicated as follows: [ ].
## Approved Standards

### UL Recognized: (File No. E41643)

<table>
<thead>
<tr>
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<th>Contact form</th>
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<th>Contact ratings</th>
<th>Number of test operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>G5LE</td>
<td>SPDT-NO (1a)</td>
<td>3 to 48 VDC</td>
<td>10 A, 250 VAC (general use) at 40°C 8 A, 30 VDC (resistive load) at 40°C TV-3 (N.O only) 40°C</td>
<td>6,000</td>
</tr>
</tbody>
</table>

### CSA Certified: (File No. LR31928)

<table>
<thead>
<tr>
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<td>3 to 48 VDC</td>
<td>10 A, 250 VAC (general use) at 40°C 8 A, 30 VDC (resistive load) at 40°C TV-3 (N.O only) 40°C</td>
<td>6,000</td>
</tr>
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### VDE EN/IEC Certified: (File No. 6850)

<table>
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<th>Model</th>
<th>Contact form</th>
<th>Coil ratings</th>
<th>Contact ratings</th>
<th>Number of test operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>G5LE</td>
<td>SPDT-NO (1a)</td>
<td>5, 12, 24 VDC</td>
<td>10 A, 250 VAC (cosθ = 1) 70°C</td>
<td>20,000</td>
</tr>
</tbody>
</table>

### TÜV EN/IEC Certified: (File No. R50158258)

<table>
<thead>
<tr>
<th>Model</th>
<th>Contact form</th>
<th>Coil ratings</th>
<th>Contact ratings</th>
<th>Number of test operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>G5LE</td>
<td>SPDT-NO (1a)</td>
<td>5, 12, 24 VDC</td>
<td>2.5 A, 250 VAC (cosφ = 0.4) 40°C</td>
<td>100,000</td>
</tr>
<tr>
<td></td>
<td>SPDT (1c)</td>
<td></td>
<td>10 A, 250 VAC (cosφ = 0.4) 40°C</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 A, 30 VAC (resistive load) at 85°C</td>
<td>100,000</td>
</tr>
</tbody>
</table>

## Precautions

- Please refer to “PCB Relays Common Precautions” for correct use.
Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.

Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.