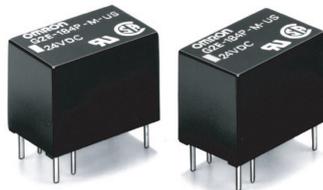


PCB Signal Relay – G2E

OMRON

Miniature, Low-cost, Single-pole PCB Relay

- ROHS compliant.
- Miniature: 15.5 x 10.5 x 11.5 mm (L x W x H).
- Low power consumption: 200 mW.
- Bifurcated crossbar contacts.
- Gold-clad contacts.
- Fully sealed type available.
- Ideal for telecommunications equipment and security systems.



Signal Relays



Ordering Information

| Contact | | General-purpose | High-sensitivity |
|---------|---------------------|-----------------|------------------|
| | | Fully sealed | Fully sealed |
| SPDT | Single crossbar | G2E-184P-M-US | G2E-184P-H-M-US |
| | Bifurcated crossbar | G2E-134P-M-US | G2E-134P-H-M-US |

Note: When ordering, add the rated coil voltage to the model number.
 Example: G2E-184P-M-US 12 VDC

— Rated coil voltage

Model Number Legend

G2E - - - - VDC
 1 2 3 4 5 6 7 8

- | | | |
|--|---|--|
| <p>1. Contact Form 1: SPDT</p> <p>2. Contact Type 3: Bifurcated crossbar 8: Single crossbar</p> <p>3. Enclosure Ratings 4: Fully sealed</p> | <p>4. Terminals P: Straight PCB</p> <p>5. Power Consumption None: General-purpose (450 mW) H: High-sensitivity (200 mW)</p> | <p>6. Classification M: General-purpose</p> <p>7. Approved Standards US: UL, CSA certified</p> <p>8. Rated Coil Voltage 1.5, 3, 5, 6, 9, 12, 24 VDC</p> |
|--|---|--|

Specifications

Coil Rating

General-purpose Relays

| Rated voltage | 1.5 VDC | 3 VDC | 5 VDC | 6 VDC | 9 VDC | 12 VDC | 24 VDC |
|----------------------------------|---|--------|---------|-------|-------|---------|---------|
| Rated current | 300 mA | 150 mA | 89.3 mA | 75 mA | 50 mA | 37.5 mA | 18.8 mA |
| Coil resistance | 5 Ω | 20 Ω | 56 Ω | 80 Ω | 180 Ω | 320 Ω | 1,280 Ω |
| Coil inductance (H) (ref. value) | Armature OFF | 0.005 | 0.017 | 0.044 | 0.067 | 0.137 | 0.229 |
| | Armature ON | 0.009 | 0.034 | 0.091 | 0.136 | 0.297 | 2.1 |
| Must operate voltage | 70% max. of rated voltage | | | | | | |
| Must release voltage | 10% min. of rated voltage | | | | | | |
| Max. voltage | 120% of rated voltage at 23°C, 110% at 60°C | | | | | | |
| Power consumption | Approx. 450 mW | | | | | | |

High-sensitivity Relays

| | | | | | | | |
|--|---|---------|---------|---------|---------|---------|---------|
| Rated voltage | 1.5 VDC | 3 VDC | 5 VDC | 6 VDC | 9 VDC | 12 VDC | 24 VDC |
| Rated current | 125 mA | 66.7 mA | 41.7 mA | 33.3 mA | 22.5 mA | 17.1 mA | 8.6 mA |
| Coil resistance | 12 Ω | 45 Ω | 120 Ω | 180 Ω | 400 Ω | 700 Ω | 2,800 Ω |
| Coil inductance (H) (ref. value) | Armature OFF | 0.005 | 0.022 | 0.055 | 0.083 | 0.165 | 1.465 |
| | Armature ON | 0.009 | 0.035 | 0.092 | 0.129 | 0.303 | 2.287 |
| Must operate voltage | 80% max. of rated voltage | | | | | | |
| Must release voltage | 10% min. of rated voltage | | | | | | |
| Max. voltage | 140% of rated voltage at 23°C, 130% at 65°C | | | | | | |
| Power consumption | Approx. 200 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

| Item | Single crossbar | Bifurcated crossbar |
|---------------------------------------|------------------------------------|------------------------------------|
| Load | Resistive load (cosφ = 1) | Resistive load (cosφ = 1) |
| Rated Load | 0.5 A at 110 VAC; 1 A at 24 VDC | 0.5 A at 110 VAC; 1 A at 24 VDC |
| Contact Material | AgPd (Au-clad) | |
| Rated Carry Current | 2 A | |
| Max. switching voltage | 125 VAC, 60 VDC | |
| Max. switching current | 1 A | |
| Max. switching power | 120 VA, 30 W | 120 VA, 30 W |
| Failure rate (reference value) | 1 mA at 5 VDC | 0.1 mA at 0.1 VDC |

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

■ Characteristics

| | |
|-------------------------------------|--|
| Contact resistance | 50 mΩ max. |
| Operate time | General-purpose type: 5 ms max. (mean value: approx. 2.5 ms) High-sensitivity type: 7 ms max. (mean value: approx. 3.5 ms) |
| Release time | 3 ms max. (mean value: approx. 0.8 ms) |
| Max. switching frequency | Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr at rated load |
| Insulation resistance | 100 MΩ min. (at 500 VDC) |
| Dielectric withstand voltage | 500 VAC, 50/60 Hz for 1 min between coil and contacts 500 VAC, 50/60 Hz for 1 min between contacts of same polarity |
| Vibration resistance | Destruction: 10 to 55 to 10 Hz, 1.65mm single amplitude (3.3mm double amplitude) Malfunction: 10 to 55 to 10 Hz, 1.65mm single amplitude (3.3mm double amplitude) |
| Shock resistance | Destruction: 1,000 m/s ² (approx. 100G) Malfunction: 200 m/s ² (approx. 20G) |
| Endurance | Mechanical: 10,000,000 operations min. (at 18,000 operations/hr) Electrical: DC: 500,000 operations min. (1 A at 24 VDC resistive load) AC: 200,000 operations min. (0.5 A at 110 VAC resistive load) (at 1,800 operations/hr) |
| Ambient temperature | Operating: -25°C to 60°C (with no icing) (high-sensitivity type: -25°C to 65°C) |
| Ambient humidity | Operating: 5% to 85% |
| Weight | Approx. 3.7 g |

■ Approved Standards

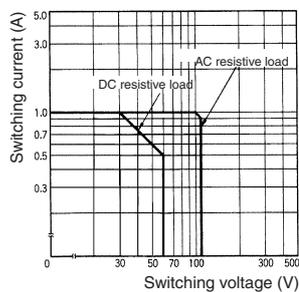
UL114, UL478, UL1950 (File No. E41515)/CSA C22.2 No.0, No.14 (File No. LR34815-97)

| Model | Contact form | Coil ratings | Contact ratings |
|--|--------------|---------------|---|
| G2E-184P-M-US G2E-184P-H-M-US G2E-134P-M-US G2E-134P-H-M-US | SPDT | 1.5 to 24 VDC | 0.5 A, 125 VAC (general use) 1 A, 28 VDC (resistive) |

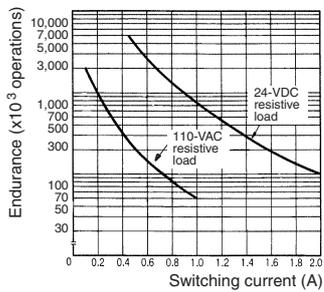
Signal Relays

Engineering Data

Maximum Switching Power
G2E-184P-M-US



Endurance
G2E-184P-M-US



Dimensions

- Note: 1. All units are in millimeters unless otherwise indicated.
- 2. Orientation marks are indicated as follows:

