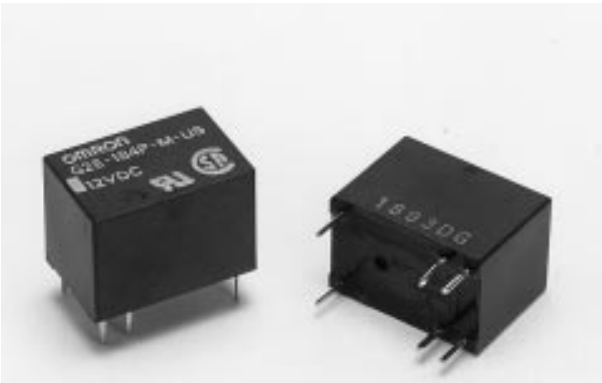


PCB Relay

G2E

Miniature, Low-cost, Single-pole PCB Relay

- 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.
- Plastic-sealed type available.
- Ideal for telecommunications equipment and security systems.



Ordering Information

Contact		General-purpose	High-sensitivity
		Plastic-sealed	Plastic-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 - 

1

2

3

4

 - 

5

 - 

6

 - 

7

8

 VDC

- 1. Contact Form**  
1: SPDT

**2. Contact Type**  
3: Bifurcated crossbar  
8: Single crossbar

**3. Enclosure Rating**  
4: Plastic-sealed
- 4. Terminals**  
P: Straight PCB

**5. Power Consumption**  
None: General-purpose (450 mW)  
H: High-sensitivity (200 mW)
- 6. Classification**  
M: General-purpose

**7. Approved Standards**  
US: UL, CSA certified

**8. Rated Coil Voltage**  
1.5, 3, 5, 6, 9, 12, 24 VDC

# Specifications

## ■ Coil Ratings

### 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	0.94
	Armature ON	0.009	0.034	0.091	0.136	0.297	0.496	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 °60C							
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	0.228	1.465
	Armature ON	0.009	0.035	0.092	0.129	0.303	0.504	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 ( $\cos\phi = 1$ )	Resistive load ( $\cos\phi = 1$ )
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 capacity	120 VA, 30 W	120 VA, 30 W
Min. permissible load	1 mA at 5 VDC	0.1 mA at 0.1 VDC

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

## ■ Characteristics

<b>Contact resistance</b>	50 mΩ max.
<b>Operate time</b>	General-purpose type: 5 ms max. (mean value: approx. 2.5 ms) High-sensitivity type: 7 ms max. (mean value: approx. 3.5 ms)
<b>Release time</b>	3 ms max. (mean value: approx. 0.8 ms)
<b>Max. operating frequency</b>	Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
<b>Insulation resistance</b>	100 MΩ min. (at 500 VDC)
<b>Dielectric withstand voltage</b>	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
<b>Vibration resistance</b>	Destruction: 10 to 55 Hz, 3.3-mm double amplitude Malfunction: 10 to 55 Hz, 3.3-mm double amplitude
<b>Shock resistance</b>	Destruction: 1,000 m/s <sup>2</sup> (approx. 100G) Malfunction: 200 m/s <sup>2</sup> (approx. 20G)
<b>Life expectancy</b>	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)
<b>Ambient temperature</b>	Operating: -25°C to 60°C (with no icing) (high-sensitivity type: -25°C to 65°C)
<b>Ambient humidity</b>	Operating: 35% to 85%
<b>Weight</b>	Approx. 3.7 g

## ■ Approved Standards

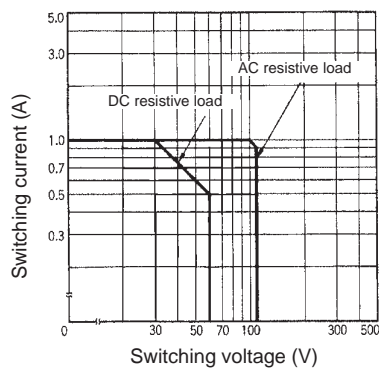
UL114, UL478, UL1950 (File No. E41515)/CSA C22.2 No.0, No.14 (File No. LR34815-97)

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)

## Engineering Data

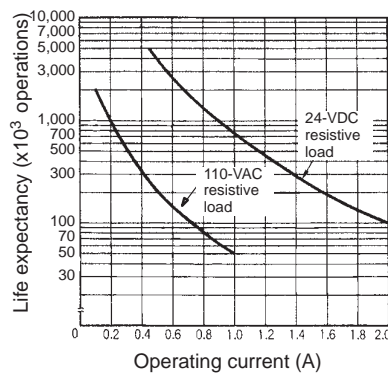
### Max. Switching Capacity

#### G2E-184P-M-US





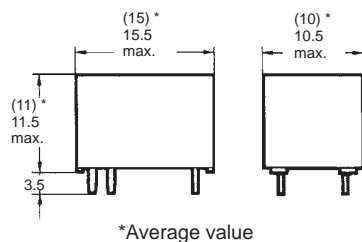
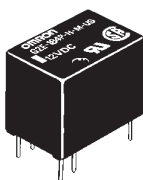
### Life Expectancy

#### G2E-184P-M-US

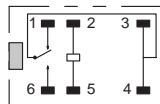


## Dimensions

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

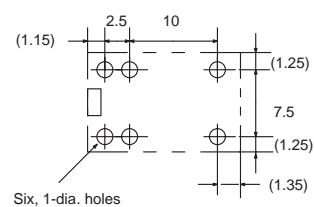


**Terminal Arrangement/  
Internal Connections  
(Bottom View)**



**Mounting Holes  
(Bottom View)**

Tolerance:  $\pm 0.1$



**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. K06-E1-9C