



**THE DATASHEET OF  
G5PA-1-M-EDC12BYOMZ(PF)**



### New G5P-series Power Relay is Ideal for Power Supplies of TV Sets and Audio Systems

- Switches an inrush current of 78 A and a constant current of 5 A, thus meeting TV-5 requirements for TV and audio system use.
- Highly sensitive with a coil power consumption of 250 mW.
- Ensures a long service life of 40,000 operations when switching an inrush current of 100 A.
- Incorporates environment-friendly contacts without cadmium.
- Equipped with a package of double-insulation construction ensuring high insulation performance.
- Models conforming to UL508, CSA C22.2, VDE0435/IEC255, and SEMKO are available.



RCSE

### Ordering Information

| Classification | Contact form | Enclosure ratings | Model    |
|----------------|--------------|-------------------|----------|
| Standard       | SPST-NO      | Flux protection   | G5PA-1-8 |

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

Example: G5PA-1-8 12 VDC  
└──────────┘ Rated coil voltage

### Model Number Legend

**G5PA-1-8 j VDC**  
└─┬─┬─┘  
1 2 3

- |   |   |
|---|---|
| <p><b>1. Number of Poles</b><br/>         1: 1 pole (SPST-NO)</p> <p><b>2. Coil Terminal Width</b><br/>         8: 0.8 mm</p> | <p><b>3. Rated Coil Voltage</b><br/>         12, 24 VDC</p> |
|---|---|

### Specifications

#### ■ Coil Ratings

|                          |                           |         |
|--------------------------|---------------------------|---------|
| Rated voltage            | 12 VDC                    | 24 VDC  |
| Rated current            | 20.8 mA                   | 10.4 mA |
| Coil resistance          | 576 Ω                     | 2,304 Ω |
| Must operate voltage     | 80% of rated voltage max. |         |
| Must release voltage     | 10% of rated voltage min. |         |
| Max. permissible voltage | 110% of rated voltage     |         |
| Power consumption        | Approx. 250 mW            |         |

- Note:**
1. Each rated current or coil resistance value must allow a tolerance of ±10% at a coil temperature of 23°C.
  2. The operating characteristics are values at a coil temperature of 23°C.
  3. The maximum permissible voltage is the maximum voltage that is applicable to the relay coil for an instant.

## ■ Contact Ratings

|                                  |  |
|----------------------------------|--|
| Rated load (capacitive load)     | 125 VAC with inrush current of 100 A (0 to peak) and constant current of 3 A (rms) |
| Resistive load (reference value) | 5 A, 250 VAC; 5A, 30 VDC   |
| Max. switching voltage           | 250 VAC, 30 VDC  |
| Max. switching current           | 5 A  |

## ■ Characteristics

|                                    |   |
|------------------------------------|---|
| Contact resistance (see note 2)    | 100 mΩ max.   |
| Operate time                       | 15 ms max.  |
| Release time                       | 5 ms max.   |
| Insulation resistance (see note 3) | 1,000 MΩ min. (at 500 VDC)  |
| Dielectric strength                | 4,000 VAC 50/60 Hz for 1 min between coil and contacts<br>1,000 VAC 50/60 Hz for 1 min between contacts of same polarity  |
| Impulse withstand voltage          | 10,000 V (1.2 x 50 μs) between coil and contacts  |
| Vibration resistance               | Destruction: 10 to 55 Hz, 1.5-mm double amplitude<br>Malfunction: 10 to 55 Hz, 1.5-mm double amplitude  |
| Shock resistance                   | Destruction: 1,000 m/s <sup>2</sup><br>Malfunction: 200 m/s <sup>2</sup>  |
| Life expectancy                    | Mechanical: 1,000,000 operations min. (at 18,000 operations an hour)<br>Electrical: 40,000 operations min. with a rated load at a 1,800 operations an hour.<br>80,000 operations min. with a resistive load (reference value) |
| Ambient temperature                | Operating: -40°C to 70°C (with no icing)  |
| Ambient humidity                   | Operating: 35% to 85%   |
| Weight                             | Approx. 10 g  |

- Note:**
- The data shown above are initial values.
  - The contact resistance is possible with 1 A applied at 5 VDC using a fall-of-potential method.
  - The insulation resistance was measured at 500 VDC. There was no difference in measurement position between this item and the dielectric strength item.

## ■ Approved Standards

UL (File No. E41515, UL508)

CSA (File No. LR31928, C22.2 No. 14)

| Model  | Coil ratings | Contact ratings | Number of test operations |
|--------|--------------|-----------------|---------------------------|
| G5PA-1 | 5 to 24 VDC  | 5 A, 277 VAC    | 30,000                    |
|        |              | 5 A, 30 VDC     | 6,000                     |
|        |              | TV-5 rating     | 25,000                    |

TÜV (Certificate No. R9650435, IEC255/VDE0435)

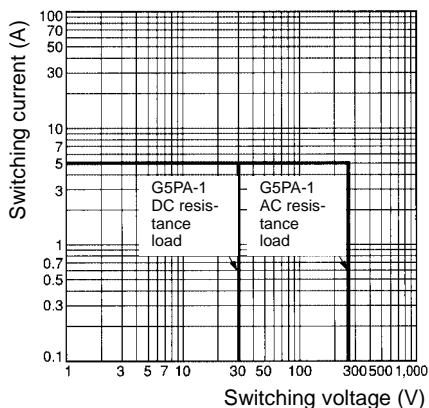
| Model  | Coil ratings | Contact ratings   | Number of test operations |
|--------|--------------|---|---------------------------|
| G5PA-1 | 5 to 24 VDC  | 5 A, 250 VAC<br>(cosφ = 1)<br>5 A, 30 VDC<br>(L/R : 0 ms) | 100,000                   |

SEMKO (Certificate No. 9732043; EN60065)

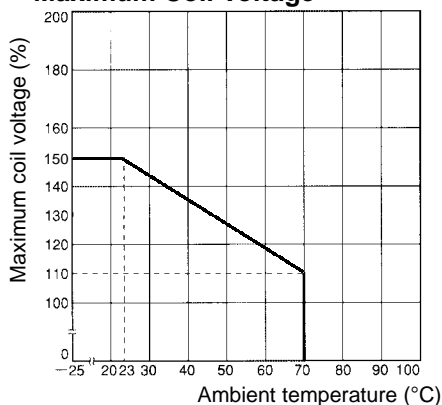
| Model  | Coil ratings | Contact ratings                         | Number of test operations |
|--------|--------------|---|---------------------------|
| G5PA-1 | 5 to 28 VDC  | 5 A/40 A, 250 VAC<br>3 A/100 A, 250 VAC | 10,000                    |

# Engineering Data

## Maximum Switching Power



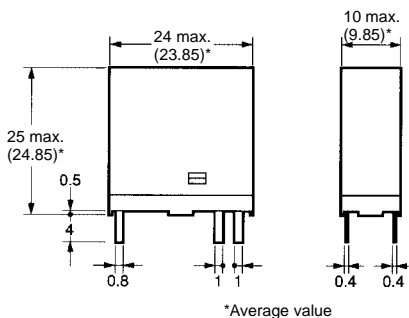
## Ambient Temperatures vs. Maximum Coil Voltage



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

## Dimensions

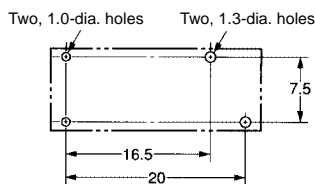
**Note:** All units are in millimeters unless otherwise indicated.



\*Average value

### Mounting Holes

(Bottom View)  
Tolerance: ±0.1 mm.



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



No coil polarity

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

## Looking for pricing, stock, or lifecycle information?

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