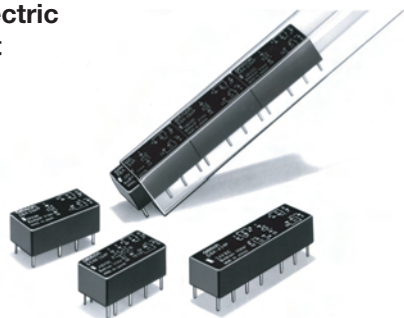


Fully sealed Relay with High Impulse Dielectric for Use in Telecommunications Equipment

- ROHS compliant.
- High sensitivity can be driven by digital circuits.
- Horizontal design allows use in ½ inch PCB racks.
- Impulse withstand voltage meets FCC Part 68 requirements.
- Relays can be mounted side-by-side due to low magnetic leakage.
- Single- and double-winding latching relays also available.
- Special models available for low thermoelectromotive force.



Ordering Information

Single-side Stable Type

| Contact         |      | Ag + Au-clad     | AgPd + Au-clad   |
|-----------------|------|------------------|------------------|
| General purpose | DPDT | G6A-274P-ST-US   | G6A-234P-ST-US   |
|                 | 4PDT | G6A-474P-ST-US   | G6A-434P-ST-US   |
| Low-sensitivity | DPDT | G6A-274P-ST40-US | G6A-234P-ST40-US |
|                 | 4PDT | G6A-474P-ST40-US | G6A-434P-ST40-US |

Single-winding Latching Type

| Contact         |      | Ag + Au-clad    | AgPd + Au-clad  |
|-----------------|------|-----------------|-----------------|
| General purpose | DPDT | G6AU-274P-ST-US | G6AU-234P-ST-US |
|                 | 4PDT | G6AU-474P-ST-US | G6AU-434P-ST-US |

Double-winding Latching Type

| Contact         |      | Ag + Au-clad      | AgPd + Au-clad    |
|-----------------|------|-------------------|-------------------|
| General purpose | DPDT | G6AK-274P-ST-US   | G6AK-234P-ST-US   |
|                 | 4PDT | G6AK-474P-ST-US   | G6AK-434P-ST-US   |
| Low-sensitivity | DPDT | G6AK-274P-ST40-US | G6AK-234P-ST40-US |
|                 | 4PDT | G6AK-474P-ST40-US | G6AK-434P-ST40-US |

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

Example: G4A-1A-E 12 VDC

Rated coil voltage

Model Number Legend

G6A  -     -   -   VDC  
1 2 3 4 5 6 7 8 9

1. Relay Function

- None: Single-side stable
- U: Single-winding latching
- K: Double-winding latching

2. Contact Form

- 2: DPDT
- 4: 4PDT

3. Contact Type

- 7: Bifurcated crossbar  
Ag (Au-clad) contact
- 3: Bifurcated crossbar  
AgPd (Au-clad) contact

4. Enclosure Ratings

- 4: Fully sealed

5. Terminals

- P: Straight PCB

6. Stand-off

- ST: Stand-off 0.64 mm

7. Special Function

- 40: Low-sensitivity (400 mW)
- LT: Low thermoelectromotive force

8. Approved Standards

- US: UL, CSA certified

9. Rated Coil Voltage

- 3, 4.5, 5, 6, 9, 12, 24, 48 VDC

## Specifications

### ■ Coil Ratings

#### General-purpose, DPDT Relays

|                             |                               |         |       |         |         |         |                |         |
|-----------------------------|-------------------------------|---------|-------|---------|---------|---------|----------------|---------|
| <b>Rated voltage</b>        | 3 VDC                         | 4.5 VDC | 5 VDC | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC         | 48 VDC  |
| <b>Rated current</b>        | 66.7 mA                       | 44.6 mA | 40 mA | 33.3 mA | 22.2 mA | 16.7 mA | 8.3 mA         | 4.9 mA  |
| <b>Coil resistance</b>      | 45 Ω                          | 101 Ω   | 125 Ω | 180 Ω   | 405 Ω   | 720 Ω   | 2,880 Ω        | 9,750 Ω |
| <b>Coil inductance</b>      | <b>Armature OFF</b>           | 0.07    | 0.16  | 0.2     | 0.29    | 0.63    | 1.1            | 4.5     |
| <b>(H) (ref. value)</b>     | <b>Armature ON</b>            | 0.065   | 0.14  | 0.18    | 0.26    | 0.57    | 1.06           | 4.1     |
| <b>Must operate voltage</b> | 70% max. of rated voltage     |         |       |         |         |         |                |         |
| <b>Must release voltage</b> | 10% min. of rated voltage     |         |       |         |         |         |                |         |
| <b>Max. voltage</b>         | 200% of rated voltage at 23°C |         |       |         |         |         |                |         |
| <b>Power consumption</b>    | Approx. 200 mW                |         |       |         |         |         | Approx. 235 mW |         |

#### General-purpose, 4PDT Relays

|                             |                               |         |         |       |       |        |         |         |
|-----------------------------|-------------------------------|---------|---------|-------|-------|--------|---------|---------|
| <b>Rated voltage</b>        | 3 VDC                         | 4.5 VDC | 5 VDC   | 6 VDC | 9 VDC | 12 VDC | 24 VDC  | 48 VDC  |
| <b>Rated current</b>        | 120 mA                        | 79.9 mA | 72.5 mA | 60 mA | 40 mA | 30 mA  | 15 mA   | 7.5 mA  |
| <b>Coil resistance</b>      | 25 Ω                          | 56.3 Ω  | 69 Ω    | 100 Ω | 225 Ω | 400 Ω  | 1,600 Ω | 6,400 Ω |
| <b>Coil inductance</b>      | <b>Armature OFF</b>           | 0.05    | 0.11    | 0.14  | 0.2   | 0.45   | 0.8     | 3.2     |
| <b>(H) (ref. value)</b>     | <b>Armature ON</b>            | 0.045   | 0.095   | 0.12  | 0.17  | 0.38   | 0.68    | 2.7     |
| <b>Must operate voltage</b> | 70% max. of rated voltage     |         |         |       |       |        |         |         |
| <b>Must release voltage</b> | 10% min. of rated voltage     |         |         |       |       |        |         |         |
| <b>Max. voltage</b>         | 150% of rated voltage at 23°C |         |         |       |       |        |         |         |
| <b>Power consumption</b>    | Approx. 360 mW                |         |         |       |       |        |         |         |

#### Low-sensitivity DPDT Relays

|                             |                               |         |        |         |         |         |         |         |
|-----------------------------|-------------------------------|---------|--------|---------|---------|---------|---------|---------|
| <b>Rated voltage</b>        | 3 VDC                         | 4.5 VDC | 5 VDC  | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC  | 48 VDC  |
| <b>Rated current</b>        | 133.3 mA                      | 88.9 mA | 80 mA  | 66.7 mA | 44.3 mA | 33.3 mA | 16.7 mA | 8.3 mA  |
| <b>Coil resistance</b>      | 22.5 Ω                        | 50.6 Ω  | 62.5 Ω | 90 Ω    | 203 Ω   | 360 Ω   | 1,440 Ω | 5,760 Ω |
| <b>Coil inductance</b>      | <b>Armature OFF</b>           | 0.03    | 0.065  | 0.08    | 0.11    | 0.27    | 0.52    | 2.1     |
| <b>(H) (ref. value)</b>     | <b>Armature ON</b>            | 0.02    | 0.06   | 0.07    | 0.1     | 0.23    | 0.43    | 1.8     |
| <b>Must operate voltage</b> | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| <b>Must release voltage</b> | 10% min. of rated voltage     |         |        |         |         |         |         |         |
| <b>Max. voltage</b>         | 150% of rated voltage at 23°C |         |        |         |         |         |         |         |
| <b>Power consumption</b>    | Approx. 400 mW                |         |        |         |         |         |         |         |

#### Low-sensitivity 4PDT Relays

|                             |                               |         |        |         |         |         |         |         |
|-----------------------------|-------------------------------|---------|--------|---------|---------|---------|---------|---------|
| <b>Rated voltage</b>        | 3 VDC                         | 4.5 VDC | 5 VDC  | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC  | 48 VDC  |
| <b>Rated current</b>        | 133.3 mA                      | 88.9 mA | 80 mA  | 66.7 mA | 44.3 mA | 33.3 mA | 16.7 mA | 8.3 mA  |
| <b>Coil resistance</b>      | 22.5 Ω                        | 50.6 Ω  | 62.5 Ω | 90 Ω    | 203 Ω   | 360 Ω   | 1,440 Ω | 5,760 Ω |
| <b>Coil inductance</b>      | <b>Armature OFF</b>           | 0.035   | 0.1    | 0.12    | 0.17    | 0.42    | 0.7     | 2.8     |
| <b>(H) (ref. value)</b>     | <b>Armature ON</b>            | 0.02    | 0.07   | 0.09    | 0.13    | 0.3     | 0.52    | 2.2     |
| <b>Must operate voltage</b> | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| <b>Must release voltage</b> | 10% min. of rated voltage     |         |        |         |         |         |         |         |
| <b>Max. voltage</b>         | 150% of rated voltage at 23°C |         |        |         |         |         |         |         |
| <b>Power consumption</b>    | Approx. 400 mW                |         |        |         |         |         |         |         |

## Single-winding Latching, DPDT Relays

|                                     |              |                               |         |       |         |         |         |         |                |
|-------------------------------------|--------------|-------------------------------|---------|-------|---------|---------|---------|---------|----------------|
| Rated voltage                       |              | 3 VDC                         | 4.5 VDC | 5 VDC | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC  | 48 VDC         |
| Rated current                       |              | 33.7 mA                       | 22.2 mA | 20 mA | 16.7 mA | 11.1 mA | 8.3 mA  | 4.2 mA  | 2.5 mA         |
| Coil resistance                     |              | 89 Ω                          | 202 Ω   | 250 Ω | 360 Ω   | 810 Ω   | 1,440 Ω | 5,760 Ω | 19,000 Ω       |
| Coil inductance<br>(H) (ref. value) | Armature OFF | 0.15                          | 0.34    | 0.44  | 0.64    | 1.38    | 2.5     | 9.2     | 28.5           |
|                                     | Armature ON  | 0.11                          | 0.25    | 0.35  | 0.48    | 1.07    | 2       | 7.2     | 22             |
| Must operate voltage                |              | 70% max. of rated voltage     |         |       |         |         |         |         |                |
| Must release voltage                |              | 70% max. of rated voltage     |         |       |         |         |         |         |                |
| Max. voltage                        |              | 200% of rated voltage at 23°C |         |       |         |         |         |         |                |
| Power consumption                   |              | Approx. 100 mW                |         |       |         |         |         |         | Approx. 120 mW |

## Single-winding Latching, 4PDT Relays

|                                     |              |                               |         |        |         |         |         |         |         |
|-------------------------------------|--------------|-------------------------------|---------|--------|---------|---------|---------|---------|---------|
| Rated voltage                       |              | 3 VDC                         | 4.5 VDC | 5 VDC  | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC  | 48 VDC  |
| Rated current                       |              | 106.8 mA                      | 71.2 mA | 64 mA  | 53.3 mA | 35.6 mA | 26.7 mA | 13.3 mA | 6.7 mA  |
| Coil resistance                     |              | 28.1 Ω                        | 63.2 Ω  | 78.1 Ω | 112.5 Ω | 253 Ω   | 450 Ω   | 1,800 Ω | 7,200 Ω |
| Coil inductance<br>(H) (ref. value) | Armature OFF | 0.03                          | 0.06    | 0.08   | 0.11    | 0.25    | 0.45    | 1.8     | 7       |
|                                     | Armature ON  | 0.02                          | 0.04    | 0.06   | 0.08    | 0.18    | 0.32    | 1.3     | 5.2     |
| Must operate voltage                |              | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| Must release voltage                |              | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| Max. voltage                        |              | 150% of rated voltage at 23°C |         |        |         |         |         |         |         |
| Power consumption                   |              | Approx. 320 mW                |         |        |         |         |         |         |         |

## Double-winding Latching, DPDT Relays

|                                     |       |              |                               |                |       |       |       |        |         |                   |
|-------------------------------------|-------|--------------|-------------------------------|----------------|-------|-------|-------|--------|---------|-------------------|
| Rated voltage                       |       |              | 3 VDC                         | 4.5 VDC        | 5 VDC | 6 VDC | 9 VDC | 12 VDC | 24 VDC  | 48 VDC            |
| Rated current                       |       |              | 66.7 mA                       | 40.2 mA        | 36 mA | 30 mA | 20 mA | 15 mA  | 7.5 mA  | 4.2 mA            |
| Coil resistance                     |       |              | 45 Ω                          | 112 Ω          | 139 Ω | 200 Ω | 450 Ω | 800 Ω  | 3,200 Ω | 11,520 Ω          |
| Coil inductance<br>(H) (ref. value) | Set   | Armature OFF | 0.037                         | 0.09           | 0.11  | 0.16  | 0.38  | 0.6    | 2.1     | 8.5               |
|                                     |       | Armature ON  | 0.027                         | 0.065          | 0.08  | 0.12  | 0.28  | 0.45   | 1.5     | 6.3               |
|                                     | Reset | Armature OFF | 0.027                         | 0.065          | 0.08  | 0.12  | 0.28  | 0.45   | 1.5     | 6.3               |
|                                     |       | Armature On  | 0.037                         | 0.09           | 0.11  | 0.16  | 0.38  | 0.6    | 2.1     | 8.5               |
| Must operate voltage                |       |              | 70% max. of rated voltage     |                |       |       |       |        |         |                   |
| Must release voltage                |       |              | 70% max. of rated voltage     |                |       |       |       |        |         |                   |
| Max. voltage                        |       |              | 200% of rated voltage at 23°C |                |       |       |       |        |         |                   |
| Power consumption                   |       |              | Approx.<br>200 mW             | Approx. 180 mW |       |       |       |        |         | Approx.<br>200 mW |

## Double-winding Latching, 4PDT Relays

|                      |       |              |                               |         |        |         |         |         |         |         |
|----------------------|-------|--------------|-------------------------------|---------|--------|---------|---------|---------|---------|---------|
| Rated voltage        |       |              | 3 VDC                         | 4.5 VDC | 5 VDC  | 6 VDC   | 9 VDC   | 12 VDC  | 24 VDC  | 48 VDC  |
| Rated current        |       |              | 106.8 mA                      | 71.2 mA | 64 mA  | 53.3 mA | 35.6 mA | 26.7 mA | 13.3 mA | 6.7 mA  |
| Coil resistance      |       |              | 28.1 Ω                        | 63.2 Ω  | 78.1 Ω | 112.5 Ω | 253 Ω   | 450 Ω   | 1,800 Ω | 7,200 Ω |
| (H) (ref. value)     | Set   | Armature OFF | 0.03                          | 0.06    | 0.08   | 0.11    | 0.25    | 0.45    | 1.8     | 7       |
|                      |       | Armature ON  | 0.02                          | 0.04    | 0.06   | 0.08    | 0.18    | 0.32    | 1.3     | 5.2     |
|                      | Reset | Armature OFF | 0.02                          | 0.04    | 0.06   | 0.08    | 0.18    | 0.32    | 1.3     | 5.2     |
|                      |       | Armature ON  | 0.03                          | 0.06    | 0.08   | 0.11    | 0.25    | 0.45    | 1.8     | 7       |
| Must operate voltage |       |              | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| Must release voltage |       |              | 70% max. of rated voltage     |         |        |         |         |         |         |         |
| Max. voltage         |       |              | 150% of rated voltage at 23°C |         |        |         |         |         |         |         |
| Power consumption    |       |              | Approx. 320 mW                |         |        |         |         |         |         |         |

## PCB Signal Relay – G6A

### Double-winding Latching, Low-sensitivity DPDT Relays

|                      |       |              |                               |         |         |       |       |        |         |         |
|----------------------|-------|--------------|-------------------------------|---------|---------|-------|-------|--------|---------|---------|
| Rated voltage        |       |              | 3 VDC                         | 4.5 VDC | 5 VDC   | 6 VDC | 9 VDC | 12 VDC | 24 VDC  | 48 VDC  |
| Rated current        |       |              | 120 mA                        | 79.9 mA | 72.5 mA | 60 mA | 40 mA | 30 mA  | 15 mA   | 7.5 mA  |
| Coil resistance      |       |              | 25 Ω                          | 56.3 Ω  | 69 Ω    | 100 Ω | 225 Ω | 400 Ω  | 1,600 Ω | 6,400 Ω |
| (H) (ref. value)     | Set   | Armature OFF | 0.015                         | 0.04    | 0.05    | 0.07  | 0.16  | 0.28   | 1.1     | 4       |
|                      |       | Armature ON  | 0.01                          | 0.025   | 0.035   | 0.05  | 0.12  | 0.2    | 0.75    | 2.9     |
|                      | Reset | Armature OFF | 0.01                          | 0.025   | 0.035   | 0.05  | 0.12  | 0.2    | 0.75    | 2.9     |
|                      |       | Armature ON  | 0.015                         | 0.04    | 0.05    | 0.07  | 0.16  | 0.28   | 1.1     | 4       |
| Must operate voltage |       |              | 70% max. of rated voltage     |         |         |       |       |        |         |         |
| Must release voltage |       |              | 70% max. of rated voltage     |         |         |       |       |        |         |         |
| Max. voltage         |       |              | 150% of rated voltage at 23°C |         |         |       |       |        |         |         |
| Power consumption    |       |              | Approx. 360 mW                |         |         |       |       |        |         |         |

### Double-winding Latching, Low-sensitivity 4PDT Relays

|                      |       |              |                               |         |         |       |       |        |         |         |
|----------------------|-------|--------------|-------------------------------|---------|---------|-------|-------|--------|---------|---------|
| Rated voltage        |       |              | 3 VDC                         | 4.5 VDC | 5 VDC   | 6 VDC | 9 VDC | 12 VDC | 24 VDC  | 48 VDC  |
| Rated current        |       |              | 120 mA                        | 79.9 mA | 72.5 mA | 60 mA | 40 mA | 30 mA  | 15 mA   | 7.5 mA  |
| Coil resistance      |       |              | 25 Ω                          | 56.3 Ω  | 69 Ω    | 100 Ω | 225 Ω | 400 Ω  | 1,600 Ω | 6,400 Ω |
| (H) (ref. value)     | Set   | Armature OFF | 0.02                          | 0.045   | 0.065   | 0.09  | 0.18  | 0.3    | 1.2     | 4.4     |
|                      |       | Armature ON  | 0.015                         | 0.035   | 0.05    | 0.075 | 0.14  | 0.23   | 0.82    | 3.2     |
|                      | Reset | Armature OFF | 0.015                         | 0.035   | 0.05    | 0.075 | 0.14  | 0.23   | 0.82    | 3.2     |
|                      |       | Armature ON  | 0.02                          | 0.045   | 0.065   | 0.09  | 0.18  | 0.3    | 1.2     | 4.4     |
| Must operate voltage |       |              | 70% max. of rated voltage     |         |         |       |       |        |         |         |
| Must release voltage |       |              | 70% max. of rated voltage     |         |         |       |       |        |         |         |
| Max. voltage         |       |              | 150% of rated voltage at 23°C |         |         |       |       |        |         |         |
| Power consumption    |       |              | Approx. 360 mW                |         |         |       |       |        |         |         |

**Note:** 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .  
2. Operating characteristics are measured at a coil temperature of 23°C.  
3. The maximum voltage is the highest voltage that can be imposed on the relay coil.

■ Contact Ratings

| Item                           | G6A-234P-ST(40)-US/434P-ST(40)-US  |                                            | G6A-274P-ST(40)-US/474P-ST(40)-US  |                                            |
|--------------------------------|------------------------------------|--------------------------------------------|------------------------------------|--------------------------------------------|
| Load                           | Resistive load<br>(cosφ = 1)       | Inductive load<br>(cosφ = 0.4; L/R = 7 ms) | Resistive load<br>(cosφ = 1)       | Inductive load<br>(cosφ = 0.4; L/R = 7 ms) |
| Rated Load                     | 0.3 A at 125 VAC;<br>1 A at 30 VDC | 0.2 A at 125 VAC;<br>0.5 A at 30 VDC       | 0.5 A at 125 VAC;<br>2 A at 30 VDC | 0.3 A at 125 VAC;<br>1 A at 30 VDC         |
| Contact Material               | AgPd (Au-clad)                     |                                            | Ag (Au-clad)                       |                                            |
| Rated Carry Current            | 3 A                                |                                            |                                    |                                            |
| Max. switching voltage         | 250 VAC, 220 VDC                   |                                            |                                    |                                            |
| Max. switching current         | 2 A                                | 1 A                                        | 2 A                                | 1 A                                        |
| Max. switching power           | 125 VA, 60 W                       | 62.5 VA, 30 W                              | 125 VA, 60 W                       | 62.5 VA, 30 W                              |
| Failure rate (reference value) | 0.01 mA at 10 mVDC                 |                                            |                                    |                                            |

| Item                           | G6AK-234P-ST(40)-US/G6AK-434P-ST(40)-US<br>G6AU-234P-ST-US/G6AU-434P-ST-US |                                            | GG6AK-274P-ST(40)-US/G6AK-474P-ST(40)-U<br>G6AU-274P-ST-US/G6AU-474P-ST-US |                                            |
|--------------------------------|----------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------|
| Load                           | Resistive load<br>(cosφ = 1)                                               | Inductive load<br>(cosφ = 0.4; L/R = 7 ms) | Resistive load<br>(cosφ = 1)                                               | Inductive load<br>(cosφ = 0.4; L/R = 7 ms) |
| Rated Load                     | 0.3 A at 125 VAC;<br>1 A at 30 VDC                                         | 0.2 A at 125 VAC;<br>0.5 A at 30 VDC       | 0.5 A at 125 VAC;<br>2 A at 30 VDC                                         | 0.25 A at 125 VAC;<br>1 A at 30 VDC        |
| Contact Material               | AgPd (Au-clad)                                                             |                                            | Ag (Au-clad)                                                               |                                            |
| Rated Carry Current            | 3 A                                                                        |                                            | 3 A                                                                        |                                            |
| Max. switching voltage         | 250 VAC, 220 VDC                                                           |                                            | 250 VAC, 220 VDC                                                           |                                            |
| Max. switching current         | 2 A                                                                        | 1 A                                        | 2 A                                                                        | 1 A                                        |
| Max. switching power           | 125 VA, 60 W                                                               | 62.5 VA, 30 W                              | 125 VA, 60 W                                                               | 62.5 VA, 30 W                              |
| Failure rate (reference value) | 0.01 mA at 10 mVDC                                                         |                                            | 0.01 mA at 10 mVDC                                                         |                                            |

**Note:** P level:  $\lambda_{60} = 0.1 \times 10^{-6}$ /operation.  
This value was measured at a switching frequency of 60 operations/min and the criterion of contact resistance is 50Ω. This value may vary depending on the switching frequency and operating environment. Always double-check relay suitability under actual operating conditions.

## ■ Characteristics

|                                          |                                                                                                                                                                                                                                                               |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contact resistance (see note 1)</b>   | 50 mΩ max.                                                                                                                                                                                                                                                    |
| <b>Operate (set) time (see note 2)</b>   | <b>Single-side stable types:</b><br>DPDT: 5 ms max. (mean value: approx. 3 ms)<br>4PDT: 7 ms max. (mean value: approx. 3.8 ms)<br><b>Latching types:</b><br>DPDT: 5 ms max. (mean value: approx. 2.5 ms)<br>4PDT: 7 ms max. (mean value: approx. 3.3 ms)      |
| <b>Release (reset) time (see note 2)</b> | <b>Single-side stable types:</b><br>DPDT: 3 ms max. (mean value: approx. 1.2 ms)<br>4PDT: 5 ms max. (mean value: approx. 1.3 ms)<br><b>Latching types:</b><br>DPDT: 5 ms max. (mean value: approx. 2.5 ms)<br>4PDT: 7 ms max. (mean value: approx. 2.7 ms)    |
| <b>Min. set/reset signal width</b>       | DPDT: 7 ms min.<br>4PDT: 15 ms min.                                                                                                                                                                                                                           |
| <b>Max. operating frequency</b>          | Mechanical: 36,000 operations/hr<br>Electrical: 1,800 operations/hr (under rated load)                                                                                                                                                                        |
| <b>Insulation resistance</b>             | 1,000 MΩ min. (at 500 VDC); except for set-reset                                                                                                                                                                                                              |
| <b>Dielectric strength</b>               | 1,000 VAC, 50/60 Hz for 1 min between coil and contacts<br>1,000 VAC, 50/60 Hz for 1 min between contacts of different polarity<br>1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity<br>250 VAC, 50/60 Hz for 1 min between set and reset coils |
| <b>Impulse withstand voltage</b>         | 1,500 V (10 x 160 μs) (conforms to FCC Part 68)                                                                                                                                                                                                               |
| <b>Vibration resistance</b>              | Destruction: 10 to 55 to 10 Hz, 2.5-mm single amplitude (5-mm double amplitude)<br>Malfunction: 10 to 55 to 10 Hz, 1.65-mm single amplitude (3.3-mm double amplitude)                                                                                         |
| <b>Shock resistance</b>                  | Destruction: 1,000 m/s <sup>2</sup> (approx. 100G)<br>Malfunction: DPDT: 500 m/s <sup>2</sup> (approx. 50G)<br>4PDT, Latching type: 300 m/s <sup>2</sup> (approx. 30G)                                                                                        |
| <b>Endurance</b>                         | Mechanical: 100,000,000 operations min. (at 36,000 operations/hr)<br>Electrical: 500,000 operations min. (at 1,800 operations/hr)                                                                                                                             |
| <b>Ambient temperature</b>               | Operating: -40°C to 70°C (with no icing)                                                                                                                                                                                                                      |
| <b>Ambient humidity</b>                  | Operating: 5% to 85%                                                                                                                                                                                                                                          |
| <b>Weight</b>                            | DPDT: Approx. 3.5 g<br>4PDT: Approx. 6 g                                                                                                                                                                                                                      |

**Note:** The data shows are initial values.

1. The contact resistance was measured with 10mA at 1VDC with a voltage drop method.
2. Values in parentheses are actual values.
3. The insulation resistance was measured with a 500VDC megohmmeter applied to the same parts as those used for checking the dielectric strength (except between the set and reset coil).

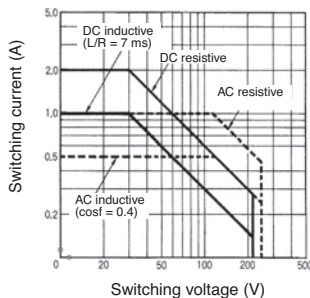
## ■ Approved Standards

**UL114, UL478 (File No. E41515)/CSA C22.2 No.0, No.14 (File No. LR24825**

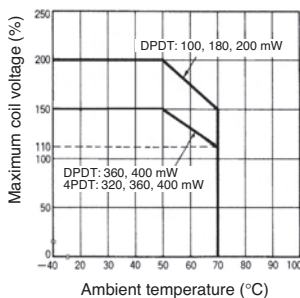
| Model                                                        | Contact form | Coil ratings | Contact ratings                                 |
|--------------------------------------------------------------|--------------|--------------|-------------------------------------------------|
| G6A-234P-ST(40)-US<br>G6AK-234P-ST(40)-US<br>G6AU-234P-ST-US | DPDT         | 3 to 48 VDC  | 0.6 A, 125 VAC<br>1 A, 30 VDC<br>0.6 A, 110 VDC |
| G6A-274P-ST(40)-US<br>G6AK-274P-ST(40)-US<br>G6AU-274P-ST-US | DPDT         |              | 0.6 A, 125 VAC<br>2 A, 30 VDC<br>0.6 A, 110 VDC |
| G6A-434P-ST(40)-US<br>G6AK-434P-ST(40)-US<br>G6AU-434P-ST-US | 4PDT         |              | 0.6 A, 125 VAC<br>1 A, 30 VDC<br>0.6 A, 110 VDC |
| G6A-474P-ST(40)-US<br>G6AK-474P-ST(40)-US<br>G6AU-474P-ST-US | 4PDT         |              | 0.6 A, 125 VAC<br>2 A, 30 VDC<br>0.6 A, 110 VDC |

## Engineering Data

### Maximum Switching Power DPDT, 4PDT

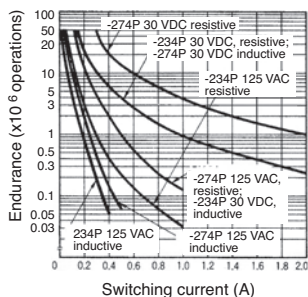


### Ambient Temperature vs. Maximum Coil Voltage

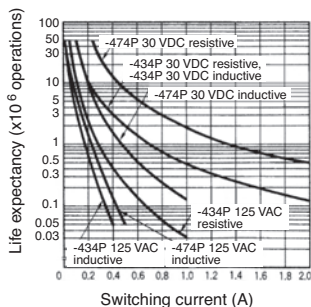


**Note:** The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

### Endurance DPDT



### 4PDT

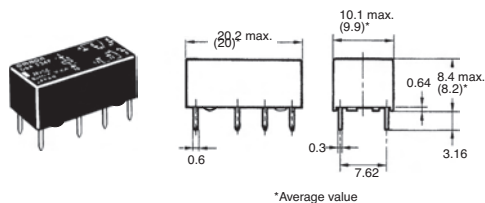


## Dimensions

**Note:** 1. All units are in millimetres unless otherwise indicated.

2. Orientation marks are indicated as follows:  

### G6A-234P-ST(40)-US, G6A-274P-ST(40)-US

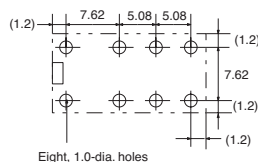


#### Terminal Arrangement/ Internal Connections (Bottom View)

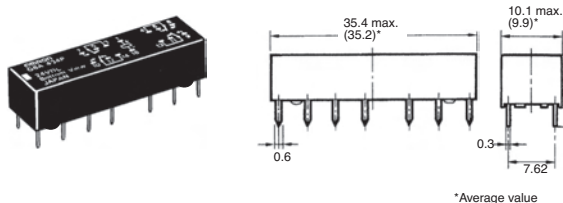


#### Mounting Holes (Bottom View)

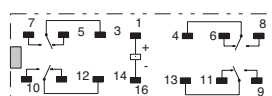
Tolerance:  $\pm 0.1$



### G6A-434P-ST(40)-US, G6A-474P-ST-US

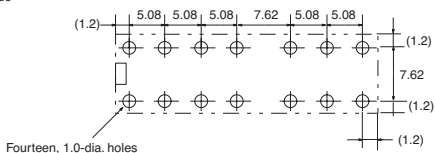


#### Terminal Arrangement/ Internal Connections (Bottom View)

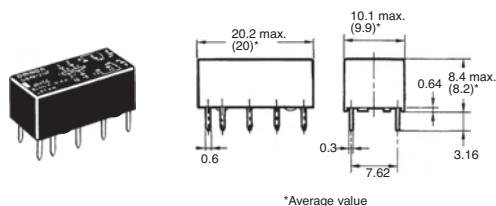


#### Mounting Holes (Bottom View)

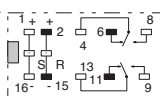
Tolerance:  $\pm 0.1$



### G6AK-234P-ST(40)-US, G6AK-274P-ST(40)-US

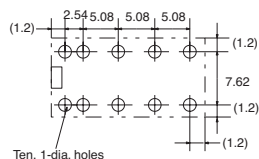


#### Terminal Arrangement/ Internal Connections (Bottom View)

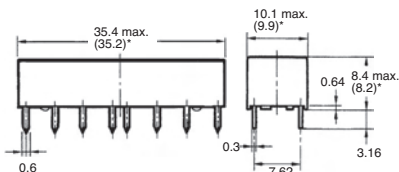
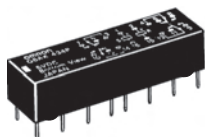


#### Mounting Holes (Bottom View)

Tolerance:  $\pm 0.1$

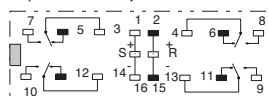


## G6AK-434P-ST(40)-US, G6AK-474P-ST(40)-US



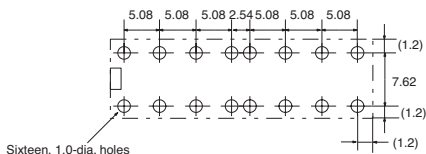
\*Average value

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

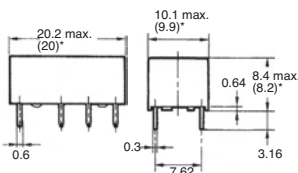
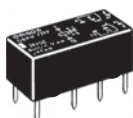


### Mounting Holes (Bottom View)

Tolerance:  $\pm 0.1$

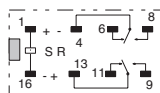


## G6AU-234P-ST-US, G6AU-274P-ST-US



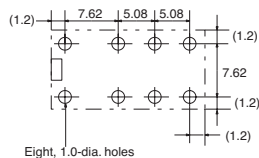
\*Average value

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

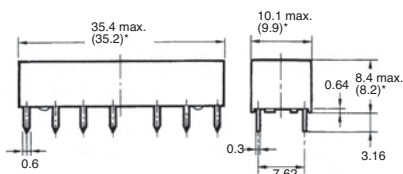
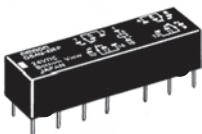


### Mounting Holes (Bottom View)

Tolerance:  $\pm 0.1$

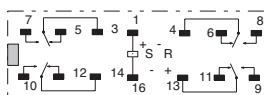


## G6AU-434P-US, G6AU-474P-ST-US



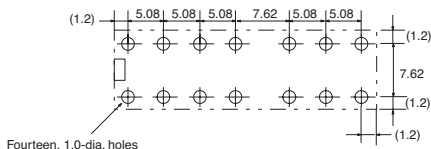
\*Average value

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



### Mounting Holes (Bottom View)

Tolerance:  $\pm 0.1$



## Precautions

### Long-term Continuously ON Contacts

Using the Relay in a circuit where the Relay will be ON continuously for long periods (without switching) can lead to unstable contacts because the heat generated by the coil itself will affect the insulation, causing a film to develop on the contact surfaces. We recommend using a latching relay (magnetic-holding relay) in this kind of circuit. If a single-side stable model must be used in this kind of circuit, we recommend using a fail-safe circuit design that provides protection against contact failure or coil burnout.

### Relay Handling

When washing the product after soldering the Relay to a PCB, use a water-based solvent or alcohol-based solvent, and keep the solvent temperature to less than 40°C. Do not put the Relay in a cold cleaning bath immediately after soldering.