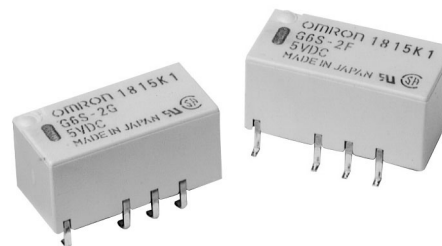


SUL Low Signal Relay G6S

- Third generation surface mount design.
- Design is based on worldwide telecommunications, data communications, computer peripheral and office automation relay requirements.
- High dielectric withstand voltage of 2,000 VAC between coil and contacts (standard type).
- Meets FCC Part 68 and Telcordia 2.5 kV surge withstand requirements.
- European version certified for EN60950/EN41003 Supplementary Insulation at 250 V at Pollution Degree 2.
- Available in PCB through-hole and SMT terminal configuration.
- Tape and reel or tube packaging.
- RoHS Compliant.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6S-2F-DC12)

■ Standard Version

Note: Complies with UL1950 Basic Insulation at 125 V (pollution degree 1 for internal spacings, pollution degree 2 for external spacings).

| Terminal | Contact form | Model | | | |
|------------------|--------------|--------------|----------------------|--------------------|-------------------------------------|
| | | Non-latching | Single coil latching | Dual coil latching | High-sensitivity dual coil latching |
| Gull-wing | DPDT | G6S-2F | G6SU-2F | G6SK-2F | G6SK-2F-H |
| Inside "L" | DPDT | G6S-2G | G6SU-2G | G6SK-2G | G6SK-2G-H |
| PCB through-hole | DPDT | G6S-2 | G6SU-2 | G6SK-2 | G6SK-2-H |

■ European Version

Certified for EN60950/EN41003/UL1950 Supplementary Insulation at 250 V (pollution degree 2).

| Terminal | Contact form | Model |
|------------------|--------------|--------------|
| | | Non-latching |
| Gull-wing | DPDT | G6S-2F-Y |
| Inside "L" | DPDT | G6S-2G-Y |
| PCB through-hole | DPDT | G6S-2-Y |

Specification

■ Contact Data

| Load | Resistive load (cos ϕ = 1) |
|-------------------------|-----------------------------------|
| Rated load | 0.5 A at 125 VAC 2 A at 30 VDC |
| Contact material | Ag (Au clad) |
| Max. carry current | 2 A |
| Max. operating voltage | 250 VAC, 220 VDC |
| Max. operating current | 2 A |
| Max. switching capacity | 62.5 VA, 60 W |
| Min. permissible load | 10 mVDC, 10 μ A |

■ Coil Data

G6S - Standard Non-latching (G6S-2F, G6S-2G, G6S-2)

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|-----------------|-----------------|-----------------|------------------------|
| | | | | | | |
| 3 | 46.7 | 64.3 | 75% max. | 10% max. | 200% max. | 140 |
| 4.5 | 31.0 | 145 | | | | |
| 5 | 28.1 | 178 | | | | |
| 6 | 23.3 | 257 | | | | |
| 9 | 15.5 | 579 | | | | |
| 12 | 11.7 | 1,028 | 75% max. | 10% min. | 170% max. | 200 |
| 24 | 8.3 | 2,880 | | | | |

G6SU - Standard Single Coil Latching (G6SU-2F, G6SU-2G, G6SU-2)

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Set pick-up voltage | Reset pick-up voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|---------------------|-----------------------|-----------------|------------------------|
| | | | | | | |
| 3 | 33.3 | 90 | 75% max. | 75% max. | 180% max. | 100 |
| 4.5 | 22.2 | 203 | | | | |
| 5 | 20.0 | 250 | | | | |
| 6 | 16.7 | 360 | | | | |
| 9 | 11.1 | 810 | | | | |
| 12 | 8.3 | 1,440 | 75% max. | 75% max. | 180% max. | 150 |
| 24 | 6.3 | 3,840 | | | | |

G6SK - Standard Dual Coil Latching (G6SK-2F, G6SK-2G, G6SK-2)

| Set coil | | | Reset coil | | Set pick-up voltage | Reset pick-up voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|--------------------|------------------------------|---------------------|-----------------------|-----------------|------------------------|
| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Rated current (mA) | Coil resistance (Ω) | | | | |
| 3 | 66.6 | 45 | 66.6 | 45 | 75% max. | 75% max. | 170% max. | 200 |
| 4.5 | 44.4 | 101 | 44.4 | 101 | | | | |
| 5 | 40.0 | 125 | 40.0 | 125 | | | | |
| 6 | 33.3 | 180 | 33.3 | 180 | | | | |
| 9 | 22.2 | 405 | 22.2 | 405 | | | | |
| 12 | 16.7 | 720 | 16.7 | 720 | 75% max. | 75% max. | 140% max. | 300 |
| 24 | 12.5 | 1,920 | 12.5 | 1,920 | | | | |

G6SK - Standard High-sensitivity Dual Coil Latching (G6SK-2F-H, G6SK-2G-H, G6SK-2-H)

| Set coil | | | Reset coil | | Set pick-up voltage | Reset pick-up voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|--------------------|------------------------------|---------------------|-----------------------|-----------------|------------------------|
| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Rated current (mA) | Coil resistance (Ω) | % of rated voltage | | | |
| 3 | 46.7 | 64.3 | 46.7 | 64.3 | 75% max. | 75% max. | 130% max. | 140 |
| 4.5 | 31.0 | 145 | 31.0 | 145 | | | | |
| 5 | 28.1 | 178 | 28.1 | 178 | | | | |
| 6 | 23.3 | 257 | 23.3 | 257 | | | | |
| 9 | 15.6 | 579 | 15.6 | 579 | | | | |
| 12 | 11.7 | 1,028 | 11.7 | 1,028 | 75% max. | 75% max. | 130% max. | 200 |
| 24 | 8.33 | 2,880 | 8.33 | 2,880 | | | | |

G6S - European Version, Non-latching (G6S-2F-Y, G6S-2G-Y, G6S-2-Y)

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|--------------------|-----------------|-----------------|------------------------|
| | | | % of rated voltage | | | |
| 3 | 66.7 | 45 | 75% max. | 10% max. | 130% max. | 200 |
| 4.5 | 44.6 | 101 | | | | |
| 5 | 40.0 | 125 | | | | |
| 6 | 33.3 | 180 | | | | |
| 9 | 22.2 | 405 | | | | |
| 12 | 16.7 | 720 | 75% max. | 10% max. | 110% max. | 230 |
| 24 | 9.58 | 2,504 | | | | |

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.
 2. The operating characteristics are measured at a coil temperature of 23°C (73°F) unless otherwise specified.
 3. Pick-up voltage is measured with no carry current across the contacts.
 4. Pick-up voltage will vary with temperature.

■ Characteristics

| | | |
|-------------------------------------|-------------------------------|--|
| Contact resistance (initial) | | 75 m Ω max. |
| Operate (set) time | | 4 ms max. (mean value approx. 2.5 ms G6S; 2.0 ms G6SU, G6SK) |
| Release (reset) time | | 4 ms max. (mean value approx. 1.5 ms G6S; 2.0 ms G6SU, G6SK) |
| Bounce time | | Approx. 0.5 ms |
| Insulation resistance | | 1,000 M Ω min. (at 500 VDC) |
| Dielectric strength | | 2,000 VAC, 50/60 Hz for 1 minute (G6S, G6SU) between coil and contacts 1,000 VAC, 50/60 Hz for 1 minute (G6SK) between coil and contacts 1,500 VAC, 50/60 Hz for 1 minute between contacts of different poles 1,000 VAC, 50/60 Hz for 1 minute between contacts of same pole |
| Surge withstand voltage | | 2,500 V, 2 x 10 μ S (conforms to Telcordia specifications) for G6S and G6SU 1,500 V, 10 x 160 μ S (conforms to FCC part 68) for G6SK between coil and contacts 2,500 V, 2 x 10 μ S (conforms to Telcordia specs.) between contacts of different poles 1,500 V, 10 x 160 μ S (conforms to FCC part 68) between contacts of same pole |
| Vibration | Mechanical durability | 10 to 55 Hz; 5 mm (0.20 in) double amplitude |
| | Malfunction durability | 10 to 55 Hz; 3.3 mm (0.13 in) double amplitude |
| Shock | Mechanical durability | 1,000 m/s ² ; approx. 100 G |
| | Malfunction durability | 750 m/s ² ; approx. 75 G |
| Ambient temperature | | -40 to +85°C (-40°F to +185°F) |
| Humidity | | 10% to 85% RH |
| Service life | Mechanical | 100,000,000 operations min. (at 36,000 operations/hour) |
| | Electrical | See "Characteristic Data" |
| Weight | | Approx. 2g (0.07 oz) |

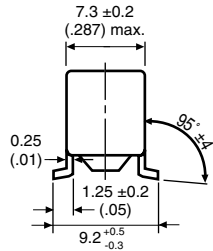
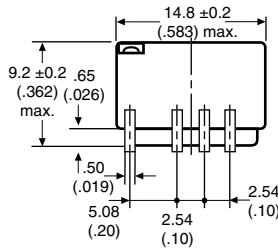
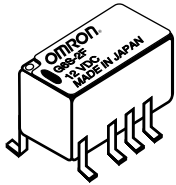
Note: Data shown are of initial value.

Dimensions

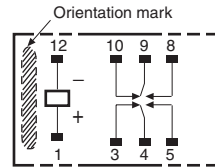
Unit: mm (inch)

Standard

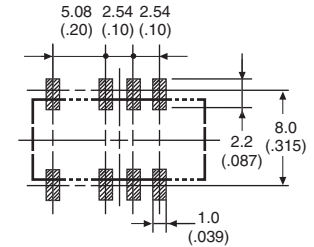
G6S-2F, G6S-SF-Y



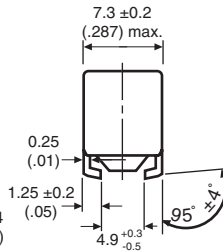
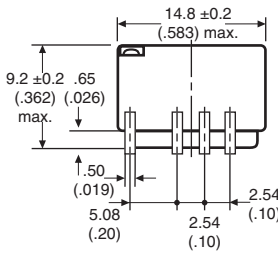
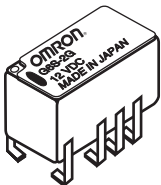
**Terminal Arrangement/
Internal Connections
(Top view)**



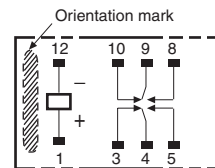
**Mounting Pads
(Top view)**



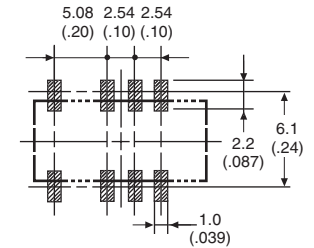
G6S-2G, G6S-2G-Y



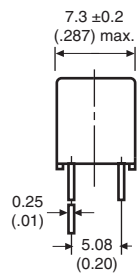
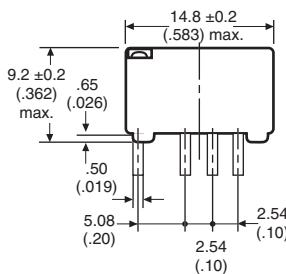
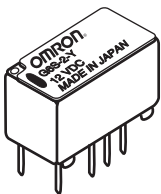
**Terminal Arrangement/
Internal Connections
(Top view)**



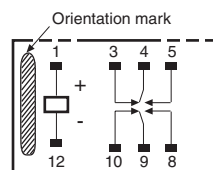
**Mounting Pads
(Top view)**



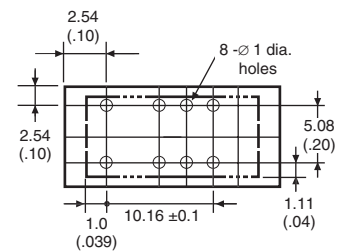
G6S-2, G6S-2-Y



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

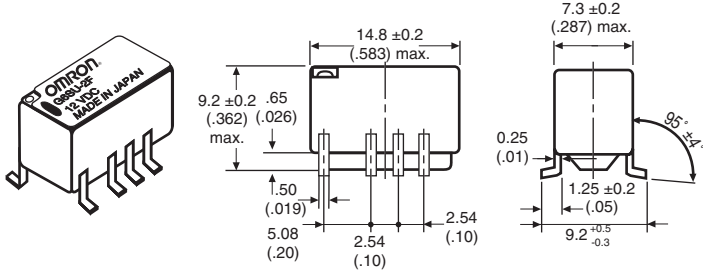


**Mounting Holes
(Bottom view)**

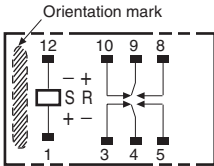


Single Coil Latching

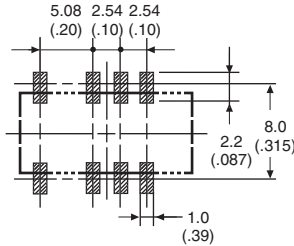
G6SU-2F



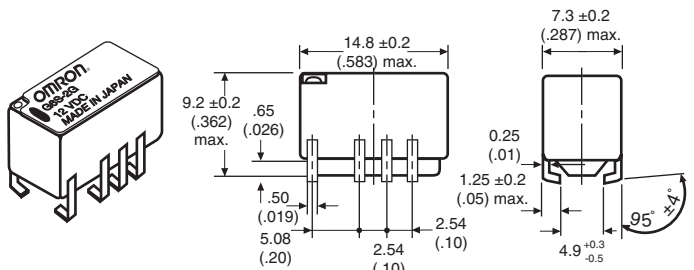
Terminal Arrangement/
Internal Connections
(Top view)



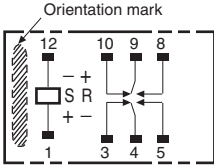
Mounting Pads
(Top view)



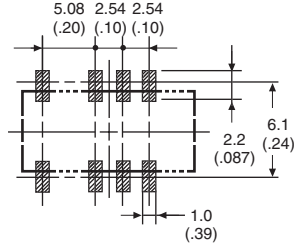
G6SU-2G



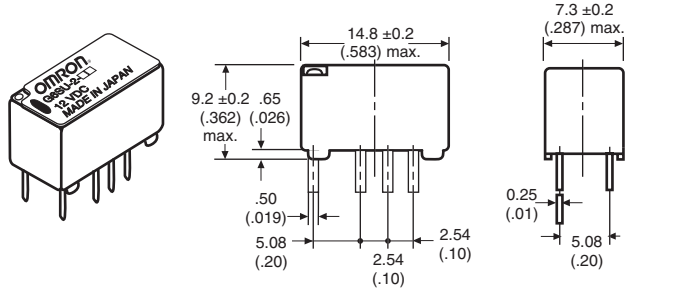
Terminal Arrangement/
Internal Connections
(Top view)



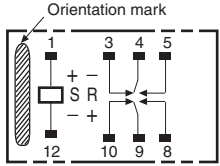
Mounting Pads
(Top view)



G6SU-2



Terminal Arrangement/
Internal Connections
(Bottom view)



Mounting Holes
(Bottom view)

