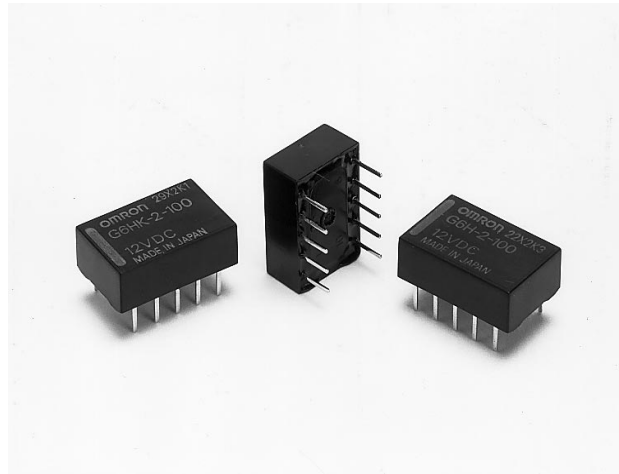


### Low Profile, Miniature, Surface Mount Relay

- Ultra low profile only 5.2mm.
- Can be soldered by VPS or IRS methods.
- Impulse withstand voltage meets FCC and CCITT rules.
- Low power consumption, 140mW.
- Available on tape for automatic insertion.



### Ordering Information

Classification		Single-side stable
DPDT	Fully sealed	G6H-2F

- Note:**
- When ordering, add the rated coil voltage to the model number.  
Example: G6H-2F 12 VDC  
Rated coil voltage
  - When ordering tape packing, add 'TR' to the model number.  
Example: G6H-2F TR 12 VDC  
Tape packing
  - 'TR' is not part of the relay model number, it is not marked on the relay case.

#### Model Number Legend:

G6H-2F  -   
1 2

- Taped Version**  
TR: Taped right  
TL: Taped left
- Rated Coil Voltage**  
5, 12, 24 VDC

### Specifications

#### Coil Ratings

##### Single-side Stable Types

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	28.1 mA	11.7 mA	8.3 mA
Coil resistance	178 Ω	1,028 Ω	2,880 Ω
Coil inductance (H) (ref. value)	Armature OFF	0.065	1.2
	Armature ON	0.058	1.0
Must operate voltage	75% max. of rated voltage		
Must release voltage	10% min. of rated voltage		
Max. voltage	200% of rated voltage at 23°C, 150% at 70°C		170% of rated voltage at 23°C, 130% at 70°C
Power consumption	Approx. 140 mW		Approx. 200 mW

- Note:**
- The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.
  - Operating characteristics are measured at a coil temperature of 23°C.

#### Contact Ratings

Load	Resistive load (cosφ = 1)
Rated load	0.5 A at 125 VAC; 1 A at 30 VDC
Contact material	Ag (Au-clad)
Rated carry current	1 A
Max. switching voltage	125 VAC, 110 VDC
Max. switching current	1 A
Max. switching capacity	62.5 VA, 33 W
Min. permissible load	10 μA at 10 mVDC

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

## ■ Characteristics

<b>Contact resistance</b>	60 mΩ max.
<b>Operate (set) time</b>	3 ms max. (mean value: approx. 2 ms)
<b>Release (reset) time</b>	2 ms max. (mean value: approx. 1 ms)
<b>Bounce time</b>	Operate: 0.5 ms max. Release: 0.5 ms max.
<b>Max. operating frequency</b>	Mechanical: 36,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
<b>Insulation resistance</b>	1,000 MΩ min. (at 500 VDC)
<b>Dielectric withstand voltage</b>	1,000 VAC, 50/60 Hz for 1 min between coil and contacts 1,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 750 VAC, 50/60 Hz for 1 min between contacts of same polarity
<b>Impulse withstand voltage</b>	1,500 V 10 x 160 μs between contacts of same polarity (conforms to FCC Part 68)
<b>Vibration resistance</b>	Destruction: 10 to 55 Hz, 5-mm double amplitude Malfunction: 10 to 55 Hz, 3-mm double amplitude
<b>Shock resistance</b>	Destruction: 1,000 m/s <sup>2</sup> (approx. 100G) Malfunction: 500 m/s <sup>2</sup> (approx. 50G)
<b>Life expectancy</b>	Mechanical: 100,000,000 operations min. (at 36,000 operations/hr) Electrical: 200,000 operations min. (0.1 A at 110 VAC inductive load)
<b>Ambient temperature</b>	Operating: -40°C to 85°C (with no icing)
<b>Ambient humidity</b>	Operating: 35% to 85%
<b>Weight</b>	Approx. 1.5 g

Note: The data shown above are initial values.

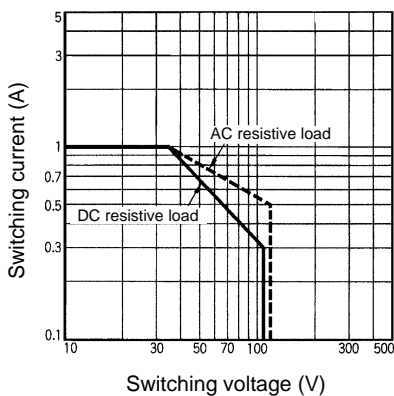
## ■ Approved by Standards

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

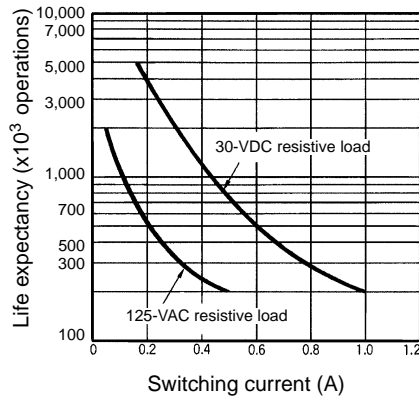
Model	Contact form	Contact form	Contact form
G6H-2F	DPDT	3 to 48 VDC	1A, 30 VDC 0.3A, 100 VDC 0.5A, 125 VDC

## Engineering Data

### Max. Switching Capacity

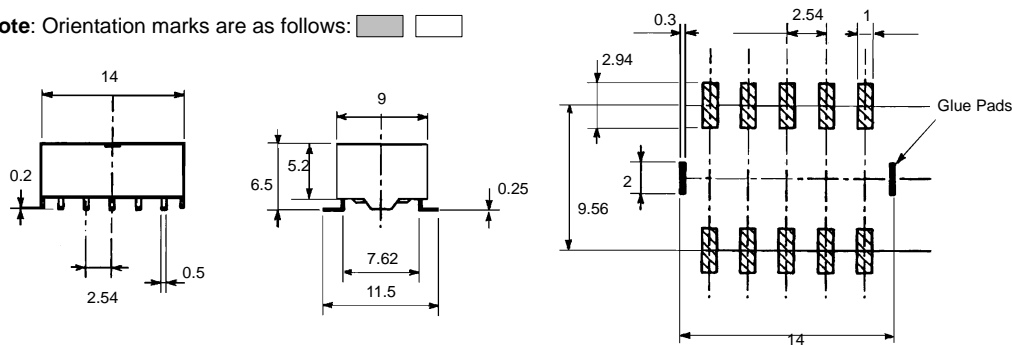


### Life Expectancy



## Dimensions

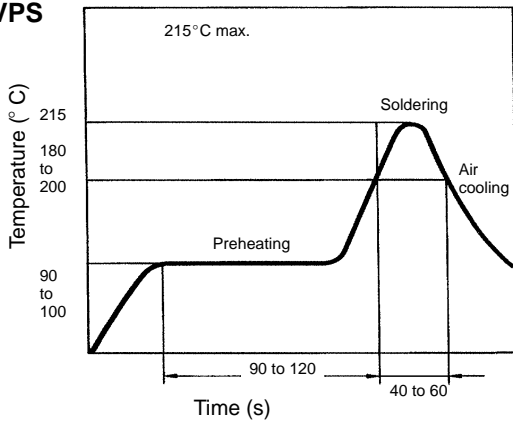
Note: Orientation marks are as follows:



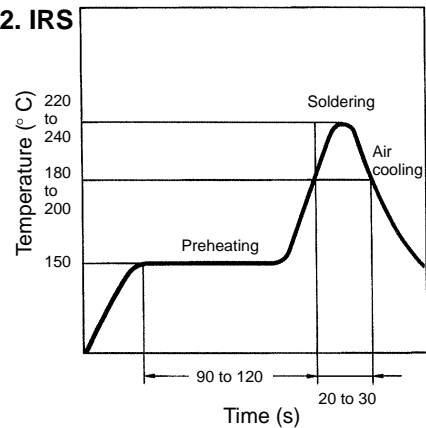
# Precautions

## Surface Temperature of PC Board VS. Recommended Soldering Time

### 1. VPS



### 2. IRS



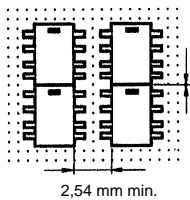
### 3. Other Considerations

- Soldering iron heat  
Temperature at tip: 280°C to 300°C  
Power: 30 W to 60 W  
Heating time: 3 s to 5 s
- When soldering with a pulse heater, hot air, or laser, take into account such factors as heat stress, and test the process under actual conditions.

#### Mounting

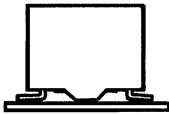
- Can be mounted in any orientation.
- Not suitable for socket mounting.
- Do not reverse the coil polarity.
- The diagram below the minimum spacing necessary when mounting more than one relay on a printed circuit board.

#### Surface Mounting Terminals



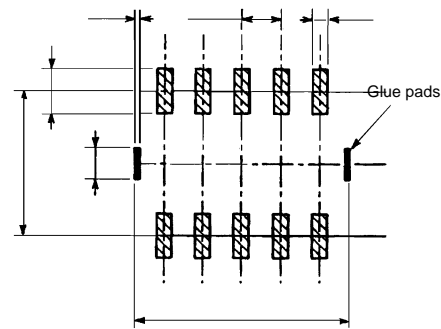
#### Terminals

##### L Terminals (G6H-2F)



#### Characteristics

- Soldering methods  
IRS (Infrared radiation furnace)  
VPS (Vapor phase)
- Removal and replacement is simple.



#### Glue Pads

Glue pads are projections from the relay case where adhesive is applied to temporarily attach the relay to the printed circuit board before soldering. The soldering points are where solder is applied during soldering.

- Glue pads are for use with epoxy or UV adhesives. Glue pads are located on the sides to allow UV illumination and adhesive curing. Two points are provided for stability.

#### Orientation Marks

These marks are provided to properly position the relays when they are supplied to the printed circuit board automatically. Two types of orientation marks are provided.

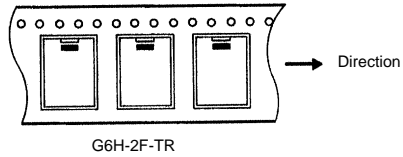
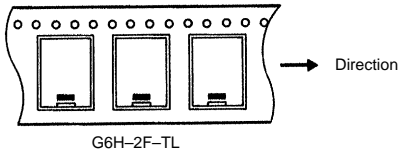
- Mechanical: A U-shaped impression along the top edge is used for alignment.
- Optical: A dark mark on the top surface is used for alignment.

#### Cleaning Methods

<b>Brushing</b>	Fine as long as the detergent has no chemical or electrical affect on the relay.
<b>Dipping</b>	
<b>Spraying</b>	
<b>Vapor</b>	
<b>Hot water</b>	
<b>Ultrasonic</b>	Fine as long as the detergent has no chemical or electrical affect on the relay. The model number of the ultrasound cleaning-type relay ends in "-U".

## Tape Packing

- Taping method  
Tape type: TE2416R (or L)  
Reel type: R53  
There are 500 relays per reel.  
Relay orientation:



### Dimensions

