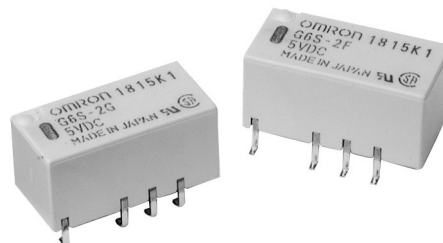


SULLow Signal Relay

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 ($\cos \phi = 1$)
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)
			% of rated voltage			
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				
24	8.3	2,880	75% max.	10% min.	170% max.	200

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)
			% of rated voltage			
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				
24	6.3	3,840	75% max.	75% max.	180% max.	150

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)	% of rated voltage			
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				
24	12.5	1,920	12.5	1,920	75% max.	75% max.	140% max.	300

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.

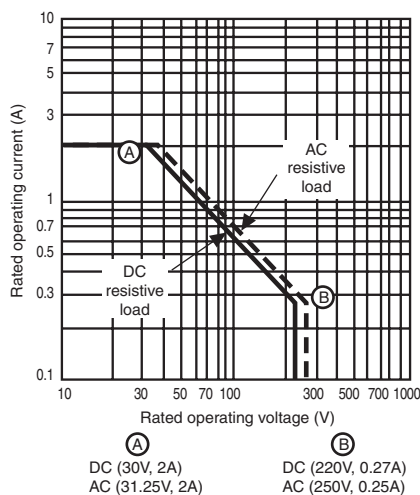
■ Characteristics

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)

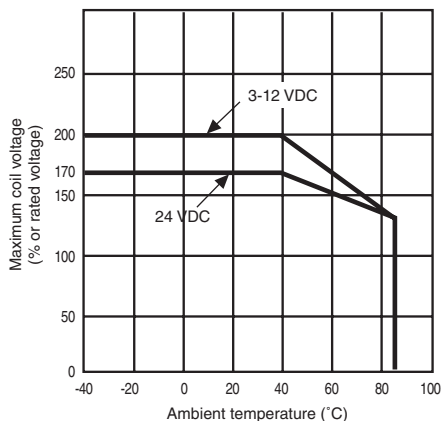
Note: Data shown are of initial value.

■ Characteristic Data

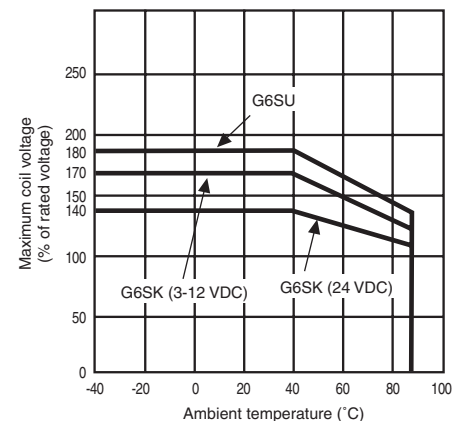
Maximum Switching Capacity



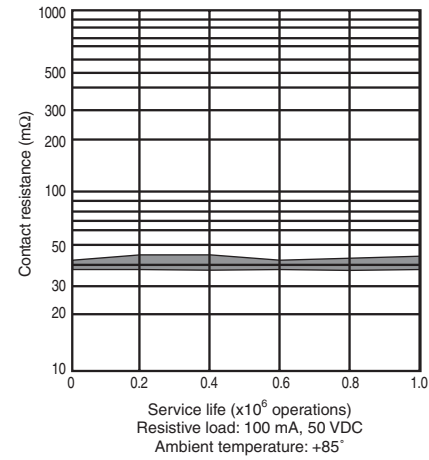
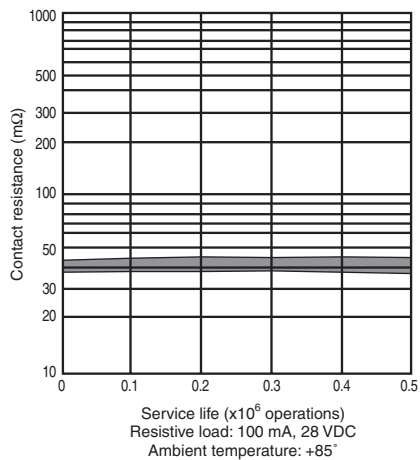
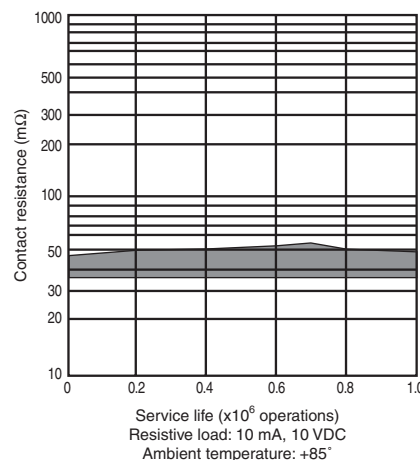
Ambient Temperature vs. Maximum Coil Voltage (G6S)



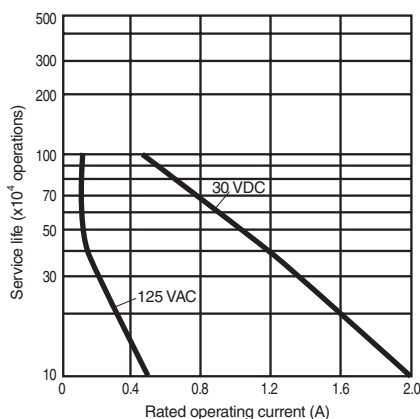
Ambient Temperature vs. Maximum Coil Voltage (G6SU, G6SK)



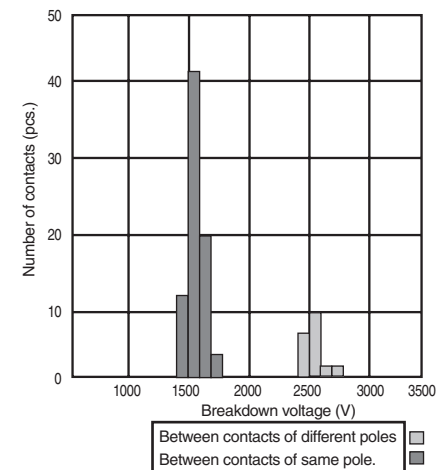
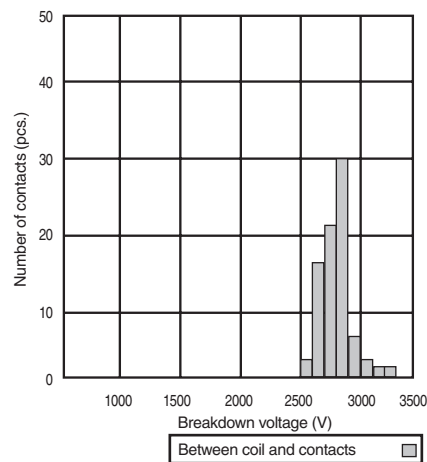
Service Life



Electrical Service Life

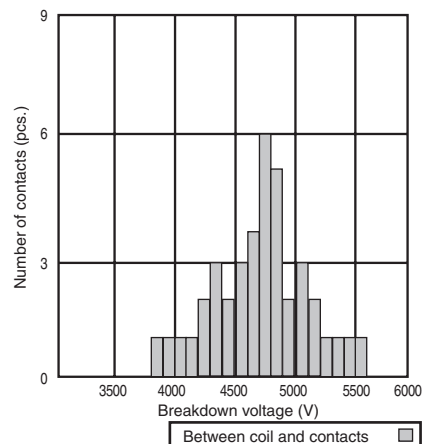


Dielectric Strength (Standard Version, Non-latching)
Detecting current: 1mA

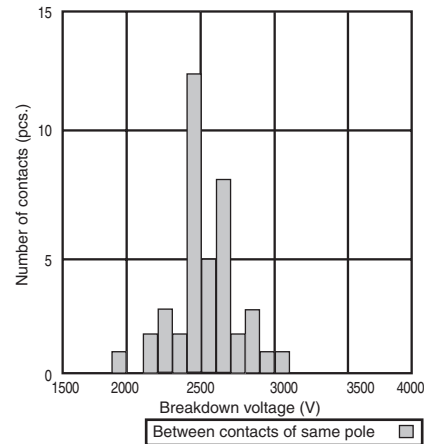


Impulse Withstand Voltage (Standard Version, Non-latching)

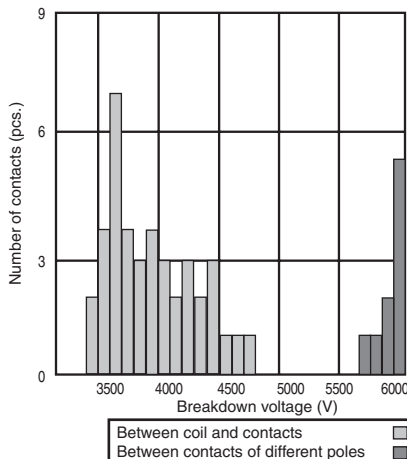
(2 x 10 μ s)



(10 x 160 μ s)

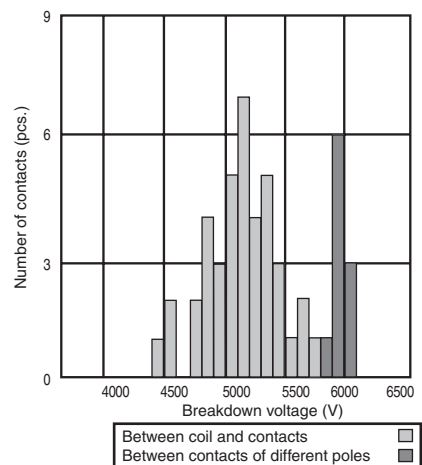


(10 x 160 μ s)

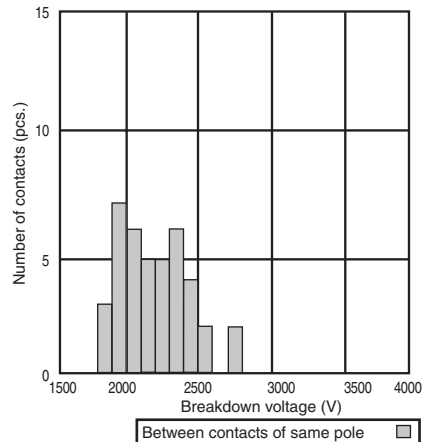


Impulse Withstand Voltage (European version)

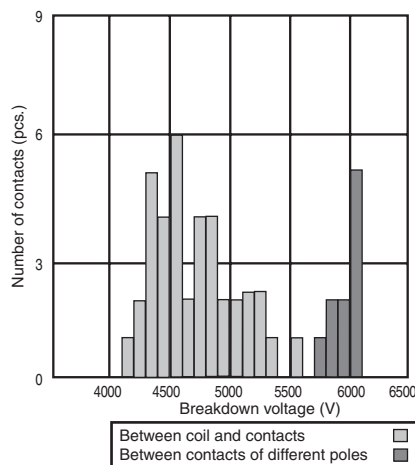
(2 x 10 μ s)



(10 x 160 μ s)

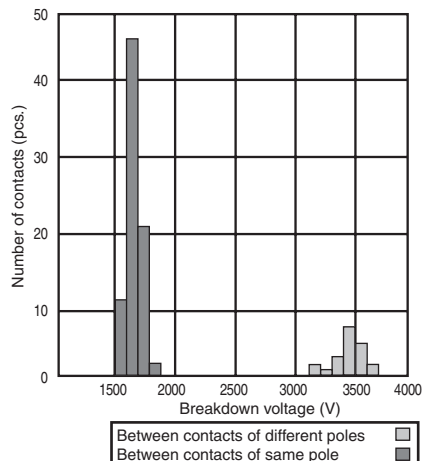
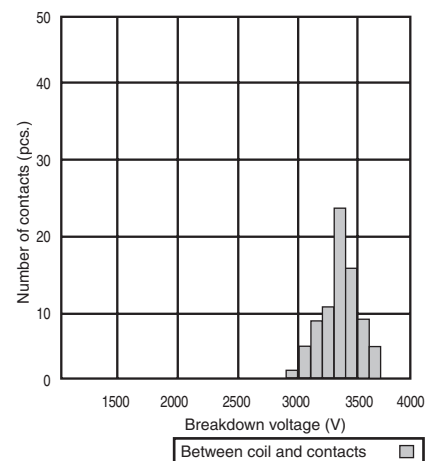


(10 x 160 μ s)



Dielectric Strength (European Version, Non-latching)

Detect Current: 1mA

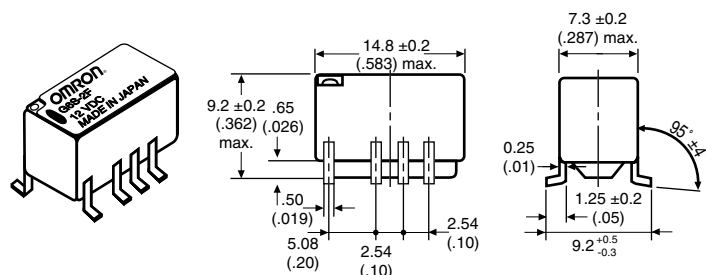


Dimensions

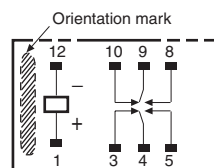
Unit: mm (inch)

■ Standard

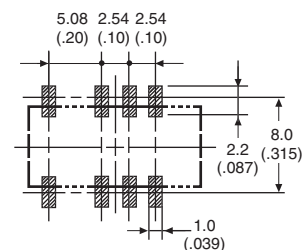
G6S-2F, G6S-SF-Y



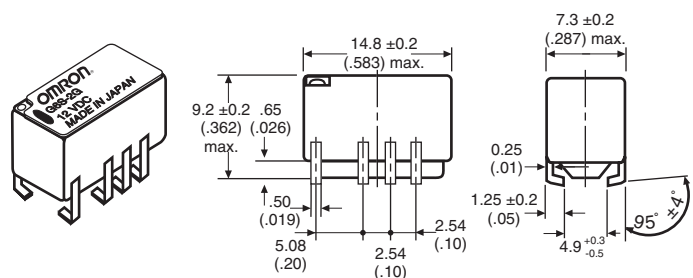
**Terminal Arrangement/
Internal Connections**
(Top view)



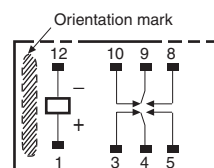
Mounting Pads
(Top view)



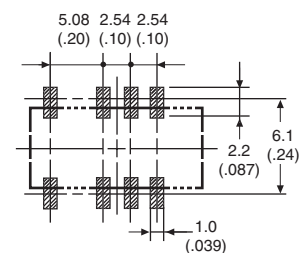
G6S-2G, G6S-2G-Y



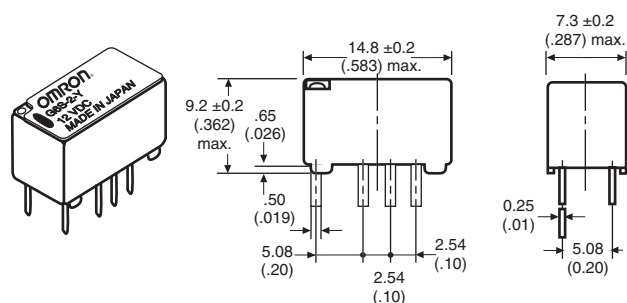
**Terminal Arrangement/
Internal Connections**
(Top view)



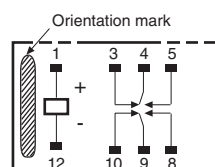
Mounting Pads
(Top view)



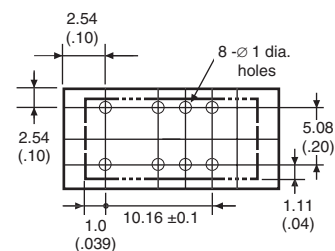
G6S-2, G6S-2-Y



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

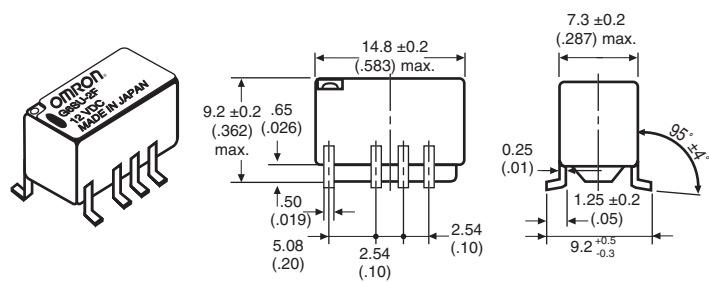


Mounting Holes
(Bottom view)

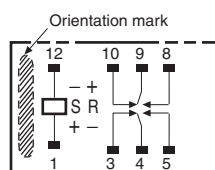


Single Coil Latching

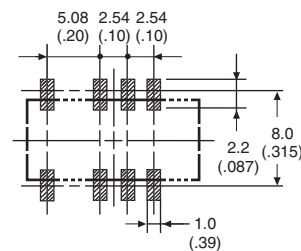
G6SU-2F



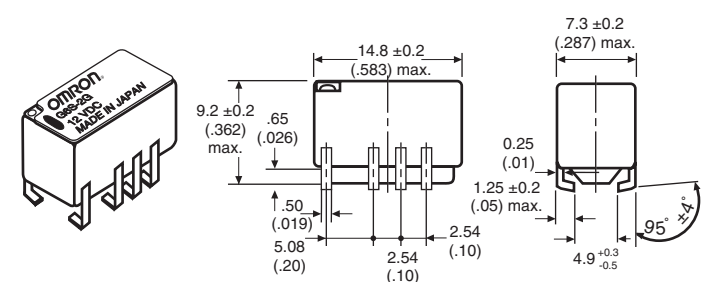
**Terminal Arrangement/
Internal Connections
(Top view)**



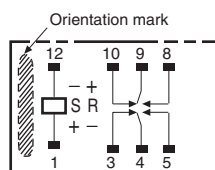
**Mounting Pads
(Top view)**



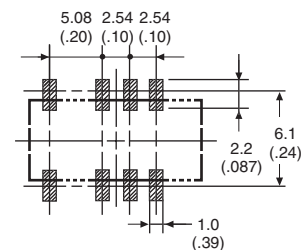
G6SU-2G



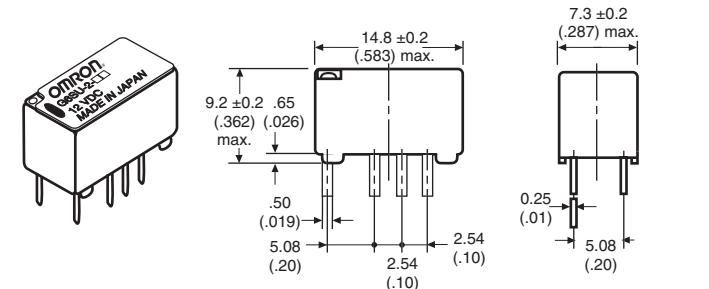
**Terminal Arrangement/
Internal Connections
(Top view)**



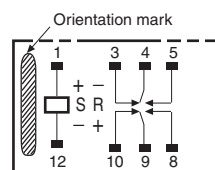
**Mounting Pads
(Top view)**



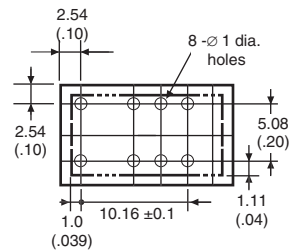
G6SU-2



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

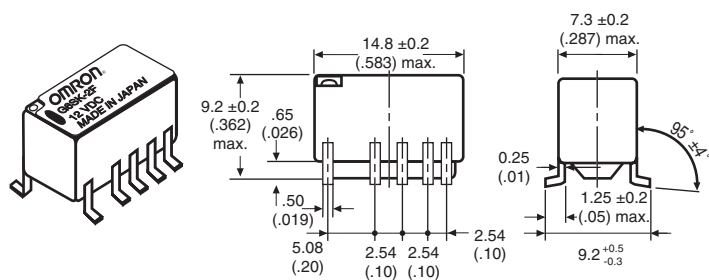


**Mounting Holes
(Bottom view)**

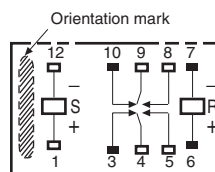


Dual Coil Latching

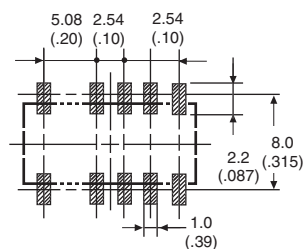
G6SK-2F, G6SK-2F-H



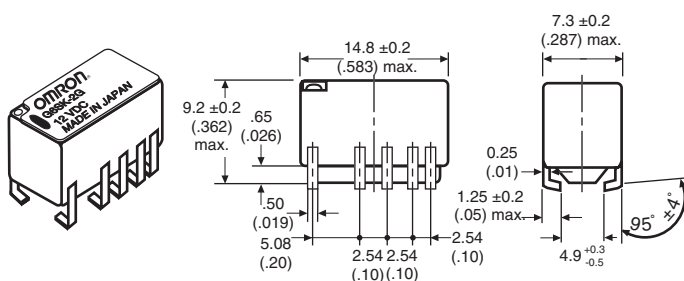
Terminal Arrangement/
Internal Connections
(Top view)



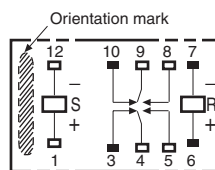
Mounting Pads
(Top view)



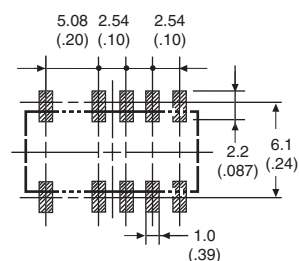
G6SK-2G, G6SK-2G-H



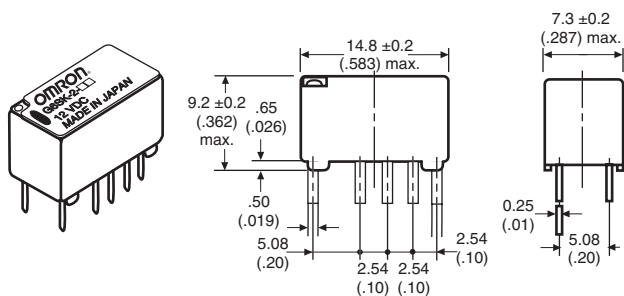
Terminal Arrangement/
Internal Connections
(Top view)



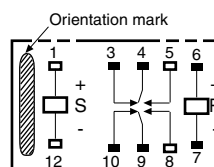
Mounting Pads
(Top view)



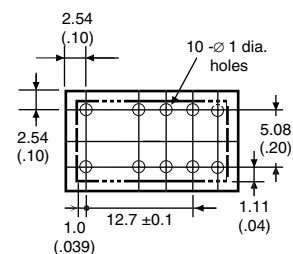
G6SK-2, G6SK-2-H



Terminal Arrangement/
Internal Connections
(Bottom view)



Mounting Holes
(Bottom view)



Note: 1. Coplanarity is 0.1 mm max.

indicate mounting marks.

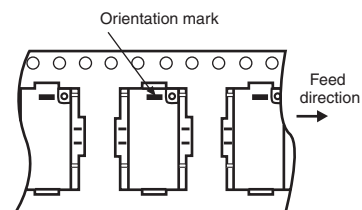
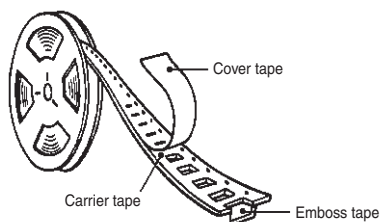
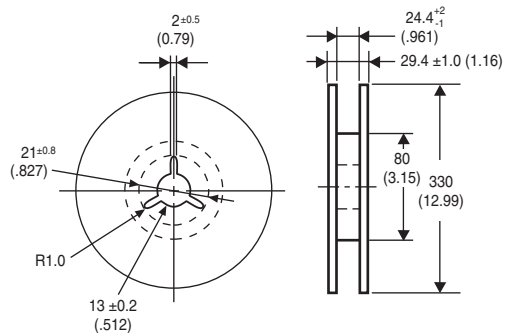
Accessories

Tube packing	Standard nomenclature	50 pcs per anti-static tube
Tape packing	When ordering, add "TR" before the rated coil voltage (e.g., G6S-2F-TR-DC12) Note: TR is not part of the relay model number and will not be marked on the relay.	

■ Dimensions

Relays per reel: 400

Reels per packing carton: 2 (800 relays)



■ Approvals

UL (File No. E41515)/CSA (File No. LR24825)

Type	Contact form	Coil rating	Contact ratings
G6S-2F G6S-2F-Y G6S-2G G6S-2G-Y G6S-2 G6S-2-Y G6SU-2F G6SU-2G G6SU-2 G6SK-2F G6SK-2G G6SK-2 G6SK-2F-H G6SK-2G-H G6SK-2-H	DPDT	1.5 to 48 VDC	0.5 A, 125 VAC 0.3 A, 110 VDC 2.0 A, 30 VDC

- Note:**
1. The rated values approved by each of the safety standards (e.g., UL and CSA) may be different from the performance characteristics individually defined in this catalog.
 2. In the interest of product improvement, specifications are subject to change.
 3. Complies with UL1950 Basic Insulation at 125 V (pollution degree 1 for internal spacings, pollution degree 2 for external spacings).

MEMO

Terms and Conditions of Sale

1. Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronic Components LLC ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
2. Prices; Payment. All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. Payments for Products received are due net 30 days unless otherwise stated in the invoice.
3. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller.
4. Currencies. If the prices quoted herein are in a currency other than U.S. dollars, Buyer shall make remittance to Seller at the then current exchange rate most favorable to Seller and which is available on the due date; provided that if remittance is not made when due, Buyer will convert the amount to U.S. dollars at the then current exchange rate most favorable to Seller available during the period between the due date and the date remittance is actually made.
5. Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
6. Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
7. Financial. If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
8. Cancellation; Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.
9. Force Majeure. Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
10. Shipping; Delivery. Unless otherwise expressly agreed in writing by Seller:
 1. Shipments shall be by a carrier selected by Seller;
 2. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
 3. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buyer;
 4. Delivery and shipping dates are estimates only.
 5. Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
11. Claims. Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Seller in the condition claimed.
12. Warranties. (a) Exclusive Warranty. Seller's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) Limitations. SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Product; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Seller's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies, or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing are not to be construed as an amendment or addition to the above warranty.
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14. Indemnities. Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
15. Property; Confidentiality. The intellectual property embodied in the Products is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
16. Miscellaneous. (a) Waiver. No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller. (b) Assignment. Buyer may not assign its rights hereunder without Seller's written consent. (c) Law. These Terms are governed by Illinois law (without regard to conflict of law principles). Federal and state courts in Illinois shall have exclusive jurisdiction for any dispute hereunder. (d) Amendment. These Terms constitute the entire agreement between Buyer and Seller relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) Severability. If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) Setoff. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) Definitions. As used herein, "including" means "including without limitation".

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 - (ii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
 - (iii) Use in consumer products or any use in significant quantities.
 - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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