■Ratings

●Coil

Classification	Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Max. voltage (V)	Power consumption (mW)
				% of rated voltage			
Standard	3 VDC	166.7	18	75% max.	5% min.	120% (at 23°C)	Approx. 500
	5 VDC	100	50				
	6 VDC	83.3	72				
	9 VDC	55.6	162				
	12 VDC	41.7	288				
	24 VDC	20.8	1,152				
	48 VDC	12	4,000				Approx. 580
High-sensitivity	5 VDC	30	166.7	75% max.	5% min.	180% (at 23°C)	Approx. 150
	12 VDC	12.5	960				
	24 VDC	8.33	2,880				Approx. 200
	48 VDC	6.25	7,680			150% (at 23°C)	Approx. 300

Note 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±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.

●Contacts

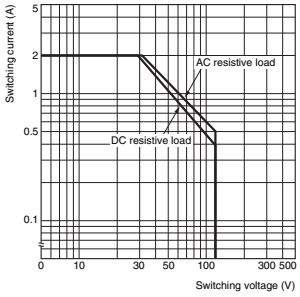
Classification	Standard	High-sensitivity
Load	Resistive load	
Contact type	Bifurcated crossbar	
Contact material	Ag + Au-alloy	
Rated load	0.5 A at 125 VAC; 2 A at 30 VDC	0.5 A at 125 VAC; 1 A at 24 VDC
Rated carry current	2 A	
Max. switching voltage	125 VAC, 125 VDC	
Max. switching current	2 A	1 A

■Engineering Data

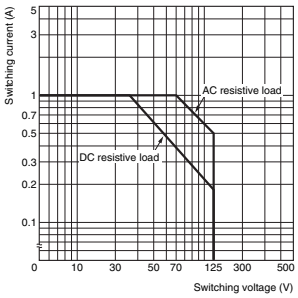
G5V-2

●Maximum Switching Capacity

Standard/G5V-2

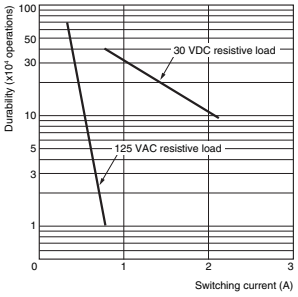


High-sensitivity/G5V-2-H1

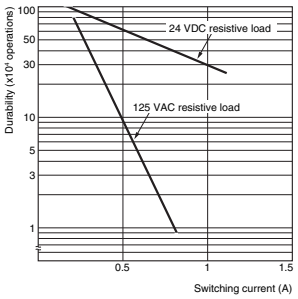


●Durability

Standard/G5V-2

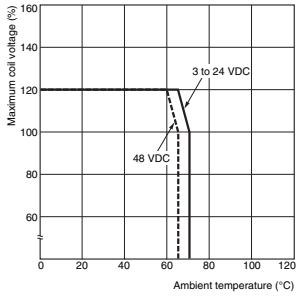


High-sensitivity/G5V-2-H1

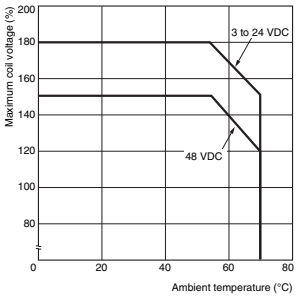


●Ambient Temperature vs. Maximum Coil Voltage

Standard/G5V-2



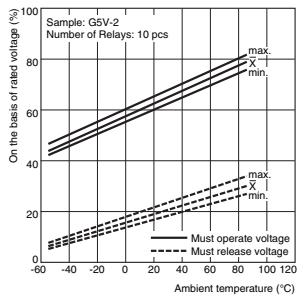
High-sensitivity/G5V-2-H1



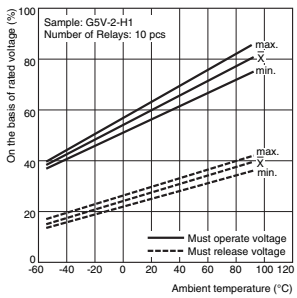
Note: The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

●Ambient Temperature vs. Must Operate or Must Release Voltage

Standard/G5V-2

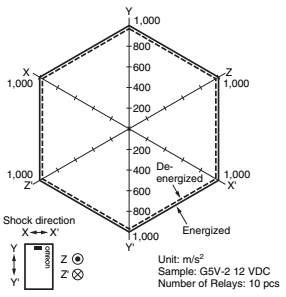


High-sensitivity/G5V-2-H1

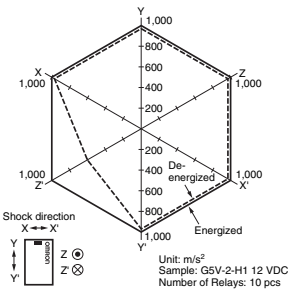


●Shock Malfunction

Standard/G5V-2



High-sensitivity/G5V-2-H1



Conditions: Shock is applied in ±X, ±Y, and ±Z directions three times each with and without energizing the Relays to check the number of contact malfunctions.

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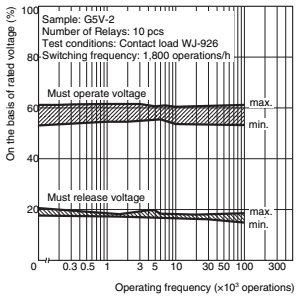
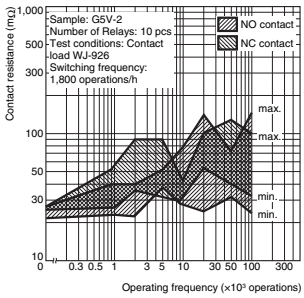
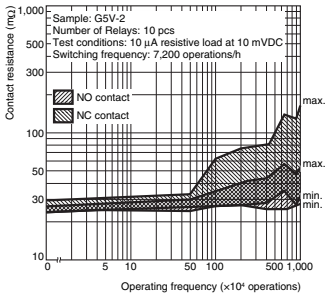
●Dial Pulse Test (with Must Operate and Must Release Voltage) *1 Standard/G5V-2



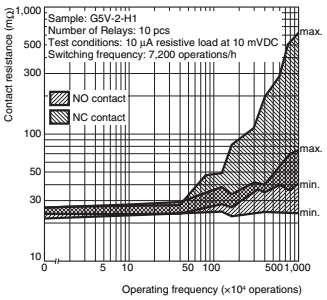
●Dial Pulse Test (Contact Resistance) *1



●Contact Reliability Test *1, *2 Standard/G5V-2



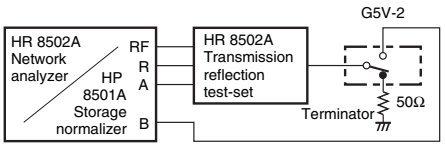
High-sensitivity/G5V-2-H1



*1. The tests were conducted at an ambient temperature of 23°C.
*2. The contact resistance data are periodically measured reference values and are not values from each monitoring operation. Contact resistance values will vary according to the switching frequency and operating environment, so be sure to check operation under the actual operating conditions before use.

●High-frequency Characteristics

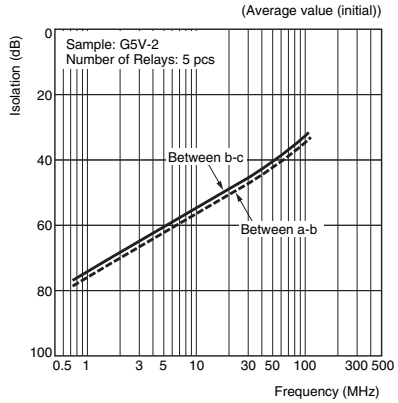
• Measurement Conditions



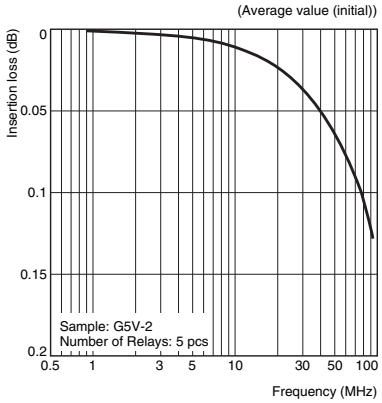
Terminals which were not being measured were terminated with 50 Ω.
Measuring impedance: 50 Ω

Note: The high-frequency characteristics data were measured using a dedicated circuit board and actual values will vary depending on the usage conditions. Check the characteristics of the actual equipment being used.

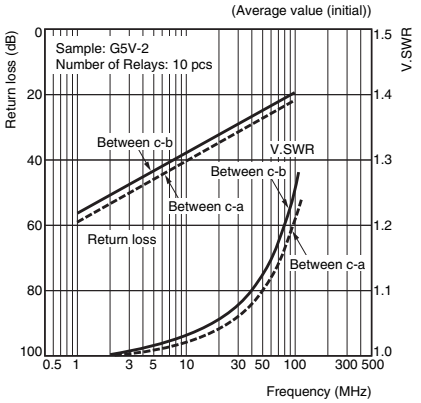
●High-frequency Characteristics (Isolation) *1, *2



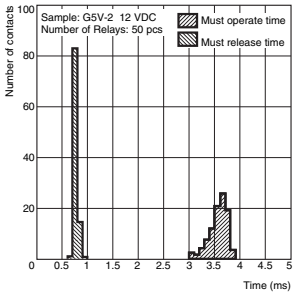
●High-frequency Characteristics (Insertion Loss) *1, *2



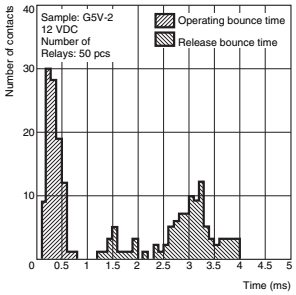
●High-frequency Characteristics (Return Loss, V.SWR) *1, *2



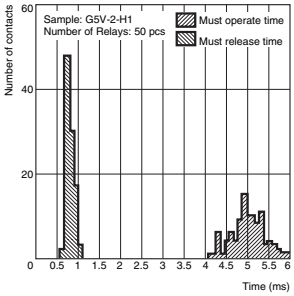
●Must Operate and Must Release Time Distribution *1 Standard/G5V-2



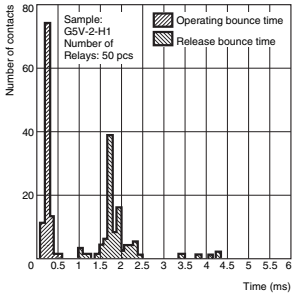
●Distribution of Bounce Time *1



●Must Operate and Must Release Time Distribution *1 High-sensitivity/G5V-2-H1



●Distribution of Bounce Time *1



*1. The tests were conducted at an ambient temperature of 23°C.
*2. High-frequency characteristics depend on the PCB to which the Relay is mounted. Always check these characteristics, including endurance, in the actual machine before use.

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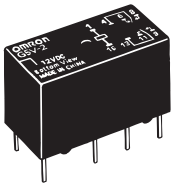
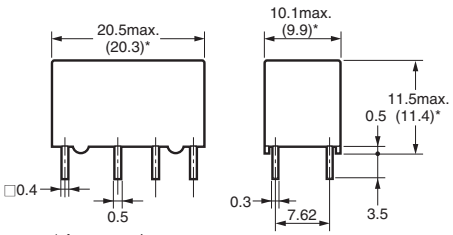
■Dimensions

G5V-2

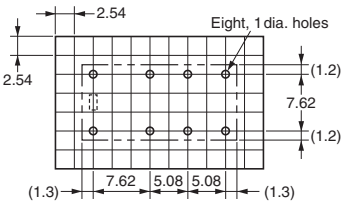




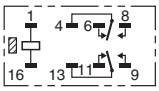
* Average value

Note: Each value has a tolerance of ±0.3 mm.

PCB Mounting Holes (Bottom View)
Tolerance: ±0.1 mm



Terminal Arrangement/ Internal Connections
(Bottom View)



(No coil polarity)

Orientation marks are indicated as follows:

■Approved Standards

UL recognized: (File No. E41515)
CSA certified: (File No. LR31928)

Model	Contact form	Coil ratings	Contact ratings		Number of test operations
			G5V-2	G5V-2-H1	
G5V-2	DPDT (2c)	3 to 48 VDC	2 A, 30 VDC at 40°C 0.6 A, 110 VDC at 40°C 0.6 A, 125 VAC at 40°C	2 A, 24 VDC at 40°C 0.2 A, 110 VDC at 40°C 0.5 A, 125 VAC at 40°C	6,000

■Precautions

• Please refer to “PCB Relays Common Precautions” for correct use.

Correct Use

• 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. Be sure to use 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.

· Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
· Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

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Contact: www.omron.com/ecb
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0316(0207)(O)

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