

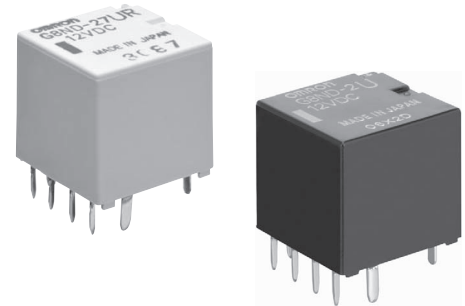
Small power H-bridge PCB relay for Automotive and DC12V applications

G8ND



For normal/reverse rotation motor control

- 8-terminal dual relay. Separate coil and contact terminals.
- Compact size but its power contacts and heatrelease design achieved a high current switching.



Purpose

- DC 12V motor/resistive application control
- Automotive DC applications (Door lock, Power window, Sunroof, etc.)

Type standard

G8ND-□□□□
1 2 3 4

1. Number of Contact Poles

2 : SPDT×2 (1 Form C×2) H-bridge

2. Protective structure

Blank: Plastic sealed

7 : Flux tight (Open vent hole)

3. Function

Blank: Standard

S : Low operating voltage

U : Ultralow operating voltage

4. Special function

Blank: Standard

R : Pin in Paste reflow compliant

English character: Special function

Classification

Classification	Terminal form	Contact structure	Protective structure	Rated coil		Model	Characteristics	
				Voltage (V)	Resistance (Ω)			
Dual	PCB terminal	SPDT × 2 (1c×2) (H-Bridge)	Plastic sealed	DC12	225	G8ND-2 DC12	Standard	
					180	G8ND-2S DC12	Low operating voltage	
					130	G8ND-2U DC12	Super low operating voltage	
			Flux tight (Open vent hole)		225	G8ND-27R DC12	Standard	
					180	G8ND-27SR DC12	Low operating voltage	
					130	G8ND-27UR DC12	Super low operating voltage	

■ Ratings

● Operation coil

Rated voltage (V)	Coil resistance (Ω)	Rated current (mA)	Operating voltage (V)	Release voltage (V)	Max. of applied voltage (5A conduct, 85°C) (V)	Service voltage range (V)	Rated power consumption (mW)
DC12	225	53.3	7.2 or less	1.0 or more	DC16, 15 min.	DC10 to 16	640
	180	66.7	6.5 or less		DC16, 5 min.		800
	130	92.3	5.5 or less	0.8 or more	DC16, 3 min.		1108

● Switching area

Item	Performance	
Contact material	Silver alloy	
Rated voltage	DC12V	
Rated load	Motor load, 25A	
Inrush current	30A	
Allowable carrying current	25A at DC14V (10min)*1	(Reference)
Min. Carry / Switching Current	DC12V 1A	(Reference)

■ Performance

Item		Standard value
Contact resistance*2		50mΩ or less
Operating time*3		10ms or less
Release time*3		5ms or less
Insulation resistance*4	Between coil and terminal	100MΩ or more
	Between homopolar contacts	100MΩ or more
Withstand voltage*5	Between coil and terminal	AC500V for 1min.
	Between homopolar contacts	AC500V for 1 min.
Vibration resistance	Durability	33Hz 45m/s²
	Malfunction (Detecting time:1ms)	10 to 55Hz 45m/s²
Shock resistance	Durability	1000m/s² (Operating time:6ms)
	Malfunction (Detecting time:1ms)	100m/s² (Operating time:11ms)
Mechanical endurance (Switching frequency:18,000 times/h)		1,000,000 times
Electrical endurance (Rated load)		100,000 times
Ambient temperature		-40 to 85°C
Ambient humidity		35 to 85%RH
Weight		7.5g

■ Packing

Packing form	Stick
MOQ*6	1,200pcs (40pcs×30sticks)

Note. All values above are measured in early time under an ambient temperature of +20°C and humidity of 65% unless stated.

*1. This is an acceptable current-carrying value in abnormal, and this is not a value which guarantee a repeat current-carrying. Please check under actual use condition before use.

*2. Measured with a voltage drop method at DC6V 1A.

*3. It changes depend on how the rated voltage is operated, but bounce-time is not included.

*4. Measured at DC500V.

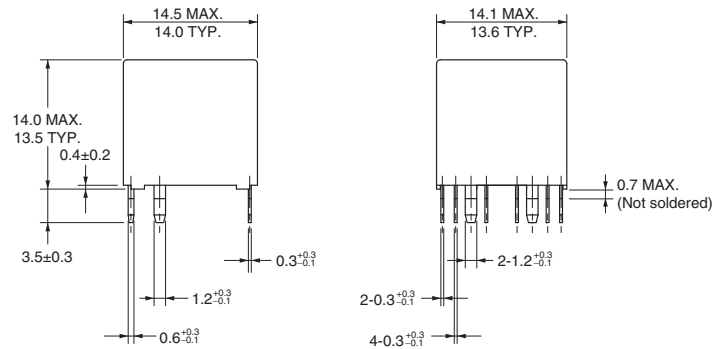
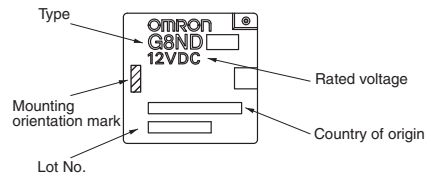
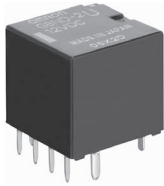
*5. Measured under 1mA of leak current, 50/60Hz for 1minute.

*6. Minimum Order Quantity is subject to change, please feel free to contact our sales representatives.

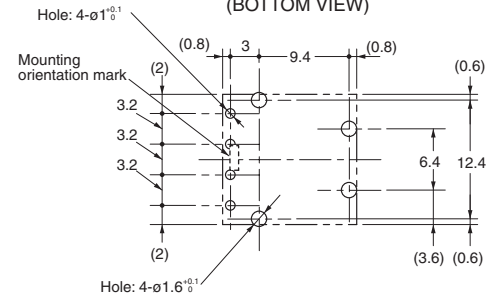
■Dimensions

(Unit: mm)

G8ND Plastic sealed

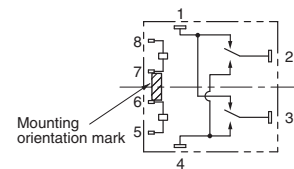


PWB processing dimension (BOTTOM VIEW)



* Please study & choose other appropriate hole diameters if confirmed the diameter values recommended above don't work with the soldering process.

Terminal arrangement / Internal connections (BOTTOM VIEW)



TOLERANCE UNLESS OTHERWISE SPECIFIED

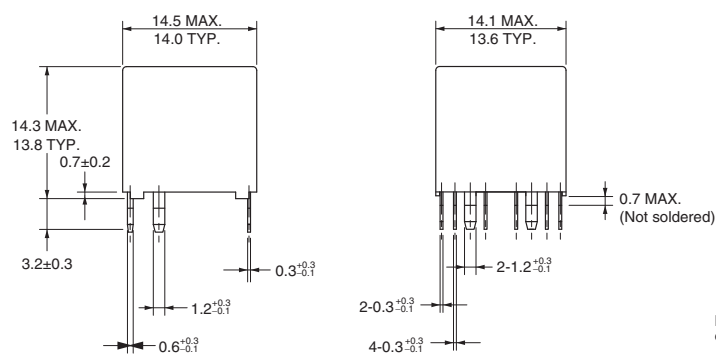
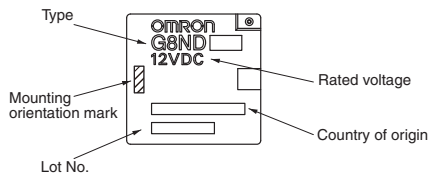
Less than 1 mm : ± 0.1 mm

1 to 3 mm : ± 0.2 mm

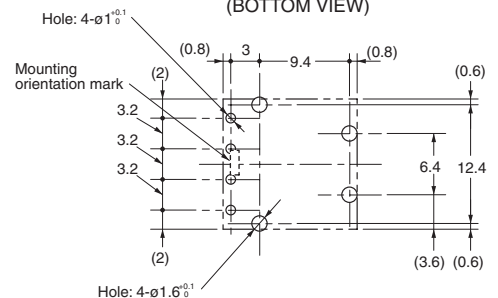
More than 3 mm : ± 0.3 mm

() is reference dimension

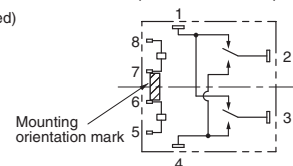
G8ND Pin in Paste reflow compliant



PWB processing dimension (BOTTOM VIEW)



Terminal arrangement / Internal connections (BOTTOM VIEW)



TOLERANCE UNLESS OTHERWISE SPECIFIED

Less than 1 mm : ± 0.1 mm

1 to 3 mm : ± 0.2 mm

More than 3 mm : ± 0.3 mm

() is reference dimension

■Precautions

●Please refer to “Safety Precautions for All Automotive Relays” for correct use.

Please check each region's Terms & Conditions by region website.

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