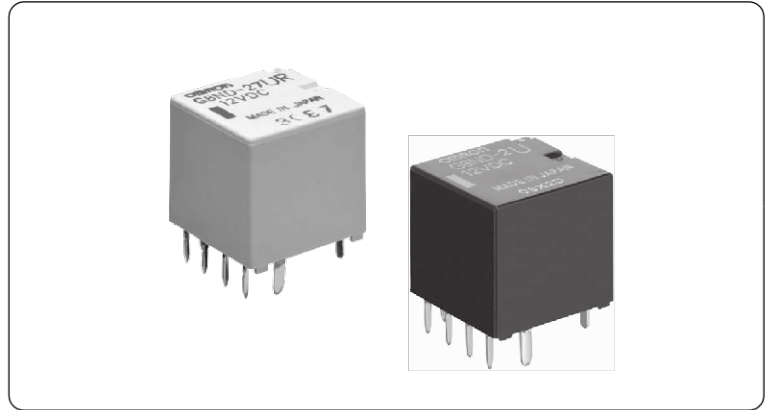


# G8ND

Automotive PCB relay (Dual H-Bridge)

## For normal/reverse rotation motor control

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



### ■ Purpose

- To control the normal/reverse of the DC motor for automotive (Door lock motor, Power window motor, Sunroof motor, etc.)

### ■ Type standard

G8ND-□□□□  
① ② ③ ④

	Classification	Symbol	Meaning of the symbol
①	Number of contact poles/Structure	2	1c×2 contacts (SPDT×2, H-Bridge)
②	Protective structure	Blank	Simple plastic seal
		7	Flux protection (Open vent hole)
③	Characteristics	Blank	Standard
		S	Low operating voltage
		U	Super low operating voltage
④	Special specification	Blank	Standard
		R	High heat resistance

### ■ Classification

Classification	Terminal form	Contact structure	Protective structure	Rated coil		Type	Characteristics
				Voltage (V)	Resistance (Ω)		
Dual	PCB terminal	SPDT X 2 (1c×2) (H-Bridge)	Simple plastic seal	DC12	225	<b>G8ND-2</b>	Standard
					180	<b>G8ND-2S</b>	Low operating voltage
					130	<b>G8ND-2U</b>	Super low operating voltage
			Flux protection (Open vent hole)		225	<b>G8ND-27R</b>	Standard
					180	<b>G8ND-27SR</b>	Low operating voltage
					130	<b>G8ND-27UR</b>	Super low operating voltage

Please confirm Omron Safety Precautions for all automotive relays first.  
Omron can not guarantee automotive relays before finish making a contract with product specifications.

## ■ 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)
DC 12	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) <sup>1</sup>	(Reference)
Min. Carry / Switching Current	DC12V 1A	(Reference)

## ■ Performance

Item	Standard value	
Contact resistance <sup>2</sup>	50mΩ or less	
Operating time <sup>3</sup>	10ms or less	
Release time <sup>3</sup>	5ms or less	
Insulation resistance <sup>4</sup>	Between coil and terminal	100MΩ or more
	Between homopolar contacts	100MΩ or more
Withstand voltage <sup>5</sup>	Between coil and terminal	AC500V for 1min.
	Between homopolar contacts	AC500V for 1 min.
Vibration resistance	Durability	33Hz 45m/s <sup>2</sup>
	Malfunction (Detecting time:1ms)	10 to 55Hz 45m/s <sup>2</sup>
Shock resistance	Durability	1000m/s <sup>2</sup> (Operating time:6ms)
	Malfunction (Detecting time:1ms)	100m/s <sup>2</sup> (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 <sup>6</sup>	1,200pcs (40pcs×30sticks)

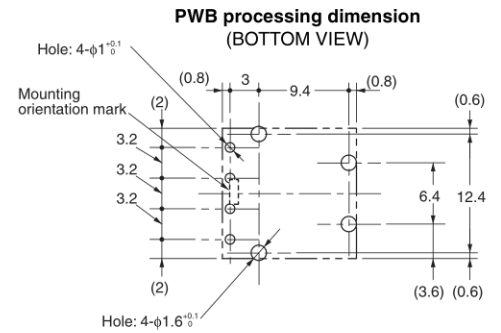
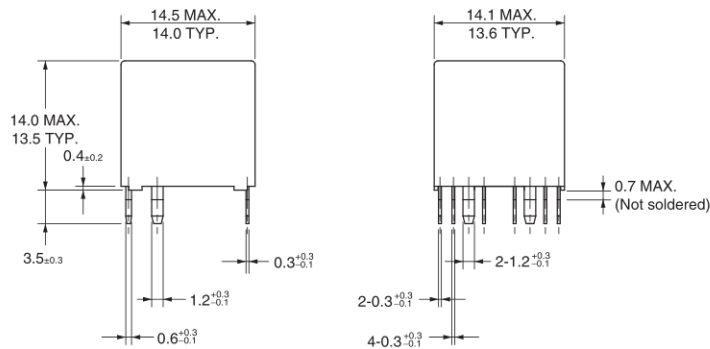
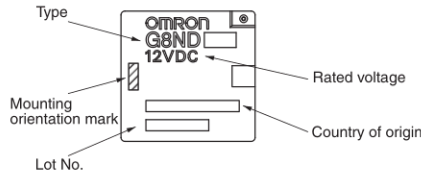
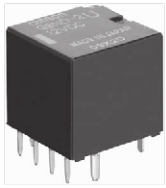
Note: All values above are measured in early time under an ambient temperature of +20°C and humidity of 65% unless stated.

- \*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.

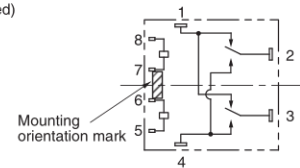
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## ■ Dimensions (Unit: mm)

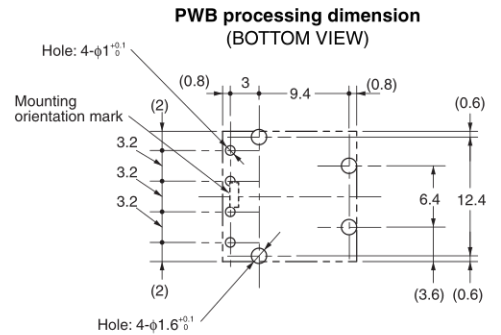
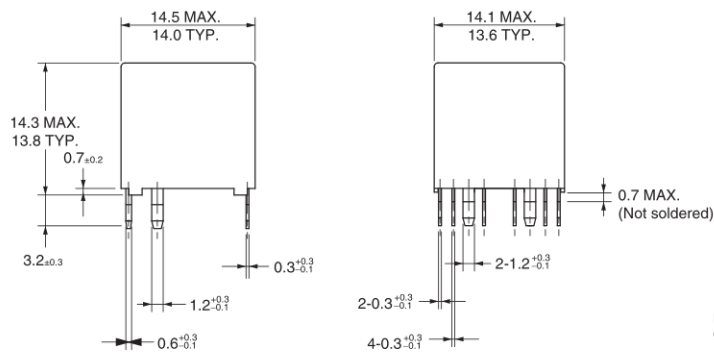
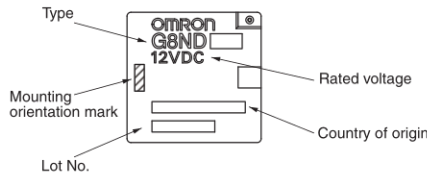
### G8ND Relay with Simple Simple Plastic Seal



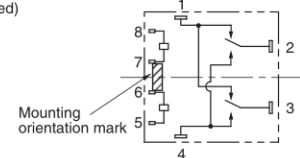
### Terminal arrangement / Internal connections (BOTTOM VIEW)



### G8ND Flux-resistive (Non-sealed) Relay



### Terminal arrangement / Internal connections (BOTTOM VIEW)



\* Tolerance unless otherwise specified  
 Less than 1 mm: ±0.1 mm  
 Less than 1 to 3 mm: ±0.2 mm  
 3 mm or more: ±0.3 mm

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