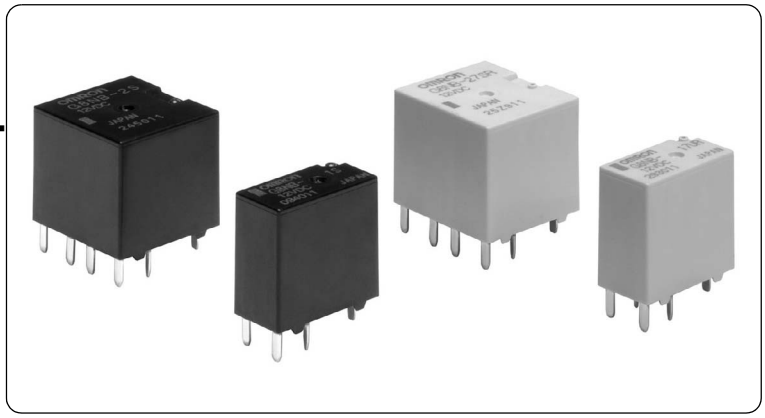
G8NB

Automotive PCB relay (Single)/(Twin)

G8NB has been designed to correspond with various kinds of automotive application as the successor to the G8N series.



- **Compatible terminal pitch with G8N series (except the height).**
- **Reliable contacts and conducting material have achieved a high carry current capability (20% improved compare to G8N)**
- **Correspond to the reflow soldering. (Open vent hole type)**
- **Twin type (2 relays in 1 case) is available. (Independent 2 circuits)**

■ Purpose

- **DC motor control for automotive parts (Door lock motor, Power window motor, Wiper motor, Washer motor, Sunroof motor, etc.)**

■ Type standard

G8NB-□□□□

①②③④

	Classification	Symbol	Meaning of the symbol
①	Number of contact poles/Structure	1	1c contact (SPDT)
		2	1c×2 contacts (SPDT×2)
②	Protective structure	Blank	Simple plastic seal
		7	Flux protection (Open vent hole)
③	Characteristics	Blank	Standard
		S	Low operating voltage
		U	Ultralow 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)		
Single	PCB terminal	SPDT (1c)	Simple plastic seal	DC12	225	**G8NB-1**	Standard
					180	**G8NB-1S**	Low operating voltage
					130	**G8NB-1U**	Super low operating voltage
			Flux protection (Open vent hole)		225	**G8NB-17R**	Standard
					180	**G8NB-17SR**	Low operating voltage
					130	**G8NB-17UR**	Super low operating voltage
Twin		SPDT X 2 (1c×2)	Simple plastic seal		225	**G8NB-2**	Standard
					180	**G8NB-2S**	Low operating voltage
					130	**G8NB-2U**	Super low operating voltage
			Flux protection (Open vent hole)		225	**G8NB-27R**	Standard
					180	**G8NB-27SR**	Low operating voltage
					130	**G8NB-27UR**	Super low operating voltage

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■ Ratings

● Operation coil

Rated voltage (V)	Coil resistance (Ω)	Rated current (mA)	Operating voltage (V)	Release voltage (V)	Max. of applied voltage (5A conduct, 105°C) (V)	Service voltage range (V)	Rated power consumption (mW)
DC 12	225	53.3	7.2 or less	1.0 or more	DC16, continuous	DC10 to 16	640
	180	66.7	6.5 or less		DC16, 15 min.		800
					DC14, continuous		
	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	
Continuous carry current*1	5A	
Allowable carrying current	30A at DC14V (30 min.)*2	(Reference)
Min. Carry / Switching Current	DC12V 1A	

■ Performance

Item		Standard value	
		G8NB-1	G8NB-2
Contact resistance*3		50mΩ or less	
Operating time*4		10ms or less	
Release time*4		5ms or less	
Insulation resistance*5	Between coil and terminal	100MΩ or more	
	Between homopolar contacts	100MΩ or more	
Withstand voltage*6	Between coil and terminal	AC500V for 1min.	
	Between homopolar contacts	AC500V for 1min.	
Vibration resistance	Durability	33Hz 45m/s^2	
	Malfunction (Detecting time: 1ms)	10 to 400Hz 45m/s^2	
Shock resistance	Durability	1000m/s^2(Operating time:6ms)	
	Malfunction (Detecting time: 1ms)	100m/s^2(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 105°C	
Ambient humidity		35 to 85%RH	
Weight		4g	8g

■ Packing

Type	G8NB-1	G8NB-2
Packing form	Stick	
MOQ*7	2,700pcs (75pcs×36sticks)	1,260pcs (35pcs×36sticks)

Note: All values above are measured in early time under an ambient temperature of +20°C and humidity of 65% unless stated.
*1. The value stated is at maximum temperature in a guaranteed ambient temperature.
*2. 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.
*3. Measured with a voltage drop method at DC5V 1A.
*4. It changes depend on how the rated voltage is operated, but bounce-time is not included.
*5. Measured at DC500V.
*6. Measured under 1mA of leak current, 50/60Hz for 1minute.
*7. Minimum Order Quantity is subject to change, please feel free to contact our sales representatives.

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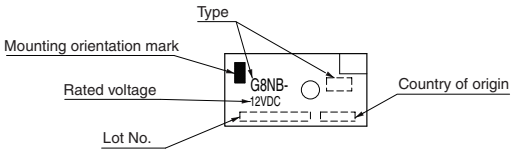
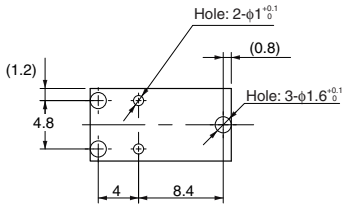
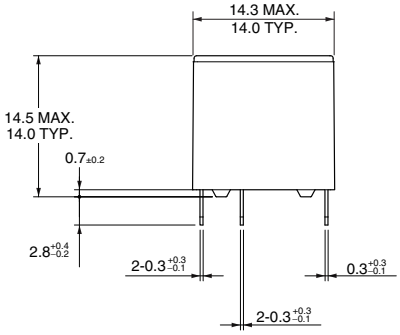
■ Dimensions (Unit: mm)

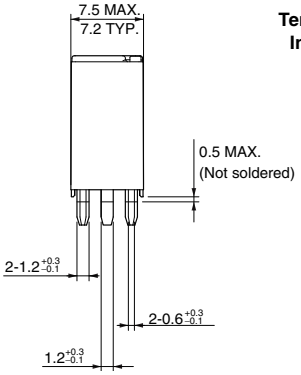
G8NB-1



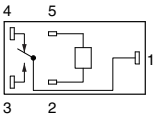
PWB processing dimension
(BOTTOM VIEW)



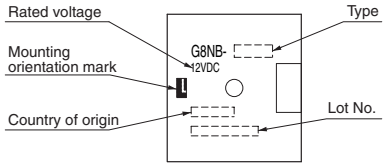




Terminal arrangement / Internal connections
(BOTTOM VIEW)



G8NB-2



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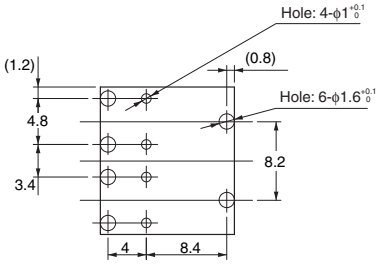

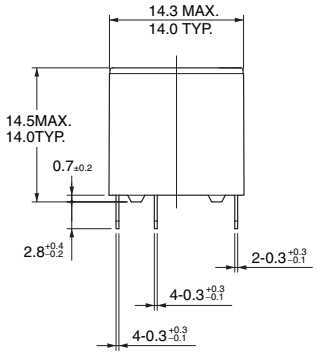

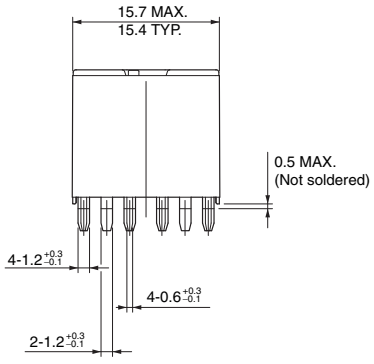

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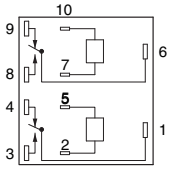

* Tolerance unless otherwise specified Less than 1 mm: ±0.1 mm
Less than 1 to 3 mm: ±0.2 mm
3 mm or more: ±0.3 mm

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