

### Ultra-Miniature Automotive PCB Relay

- Compact size
- High performance PCB relay
- 25A motor lock load
- Fully sealed construction
- Fully automated assembly
- DPDT (separate) contacts
- Pre-solder as for all terminal
- ISO9001/QS9000 series approval



### Available Types

|               | Type                              |
|---------------|-----------------------------------|
| G8NW-2 12VDC  | Standard                          |
| G8NW-2S 12VDC | High Sensitivity                  |
| G8NW-2L 12VDC | High Temperature (105°C)          |
| G8NW-2H 12VDC | High Temperature/High Sensitivity |

### Contact Data

|                       |                                 |
|-----------------------|---------------------------------|
| Max Switching Current | 30A                             |
| Rated Current         | 25A Motor load                  |
| Max Switching Voltage | 16V                             |
| Contact Material      | Silver tin alloy (Cadmium Free) |

### Coil Ratings

| Type          | Coil Resistance | Pull in Voltage |
|---------------|-----------------|-----------------|
| G8NW-2 12VDC  | 225Ω            | <7.2            |
| G8NW-2S 12VDC | 180Ω            | <6.5            |
| G8NW-2L 12VDC | 225Ω            | <7.2            |
| G8NW-2H 12VDC | 180Ω            | <6.5            |

### Specifications

|                   |  |
|-------------------|--|
| Temperature Range | -40 to +85°C (-2L, -2H: -40 to +105°C) |
| Mechanical Life   | 1,000,000 Operations                   |
| Electrical Life   | 100,000 Operations                     |
| Weight            | 7.8g                                   |

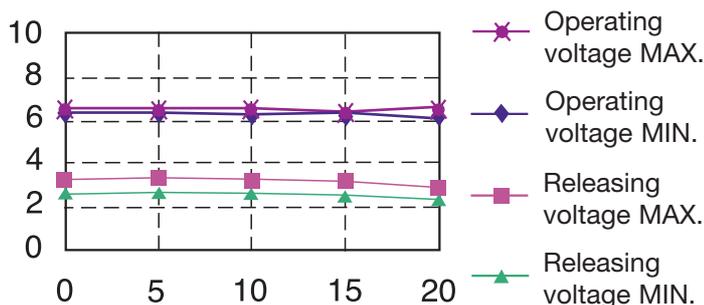
# Application Examples

- Power windows
- Power door lock
- Seat adjustment
- Sunroof
- Wiper controls

## LIFE TEST I (Power window motor: G8NW-2 12VDC)

- Test item  
14VDC-26A  
Motor Lock 200,000  
Operations minimum

■ Shift of pick-up drop-out voltage

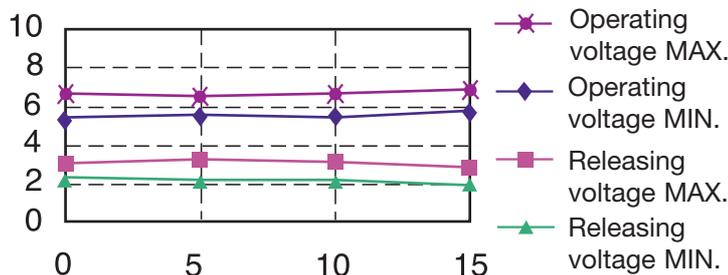


| Characteristics       |              | Specification         |     | Before the test | After the test |
|-----------------------|--------------|-----------------------|-----|-----------------|----------------|
| Contact Resistance    | N.O. Contact | 100(mΩ) or lower      | MAX | 4.1             | 7.2            |
|                       |              |                       | MIN | 2.8             | 3.5            |
|                       |              |                       | AVE | 3.36            | 5.00           |
|                       | N.C. Contact | 100(mΩ) or lower      | MAX | 5.6             | 11.8           |
|                       |              |                       | MIN | 3.9             | 5.0            |
|                       |              |                       | AVE | 4.44            | 8.00           |
| Insulation Resistance |              | 100(mΩ) or higher     |     | 1000 or higher  | 1000 or higher |
| Structure             |              | No abnormal condition |     | Good            | Good           |

## LIFE TEST II (Door lock motor: G8NW-2 12VDC)

- Test item  
16VDC-22A  
200,000  
Operations minimum

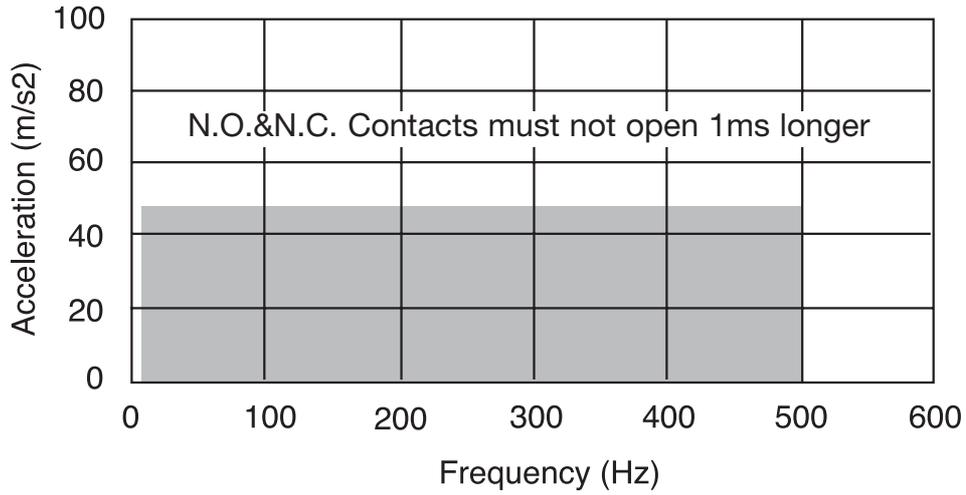
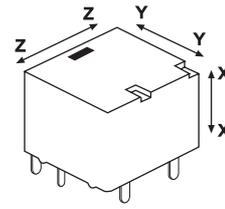
■ Shift of pick-up drop-out voltage



| Characteristics       |              | Specification         |     | Before the test | After the test |
|-----------------------|--------------|-----------------------|-----|-----------------|----------------|
| Contact Resistance    | N.O. Contact | 100(mΩ) or lower      | MAX | 4.7             | 6.8            |
|                       |              |                       | MIN | 3.2             | 3.5            |
|                       |              |                       | AVE | 3.89            | 4.50           |
|                       | N.C. Contact | 100(mΩ) or lower      | MAX | 5.3             | 7.2            |
|                       |              |                       | MIN | 3.7             | 4.0            |
|                       |              |                       | AVE | 4.46            | 6.20           |
| Insulation Resistance |              | 100(mΩ) or higher     |     | 1000 or higher  | 1000 or higher |
| Structure             |              | No abnormal condition |     | Good            | Good           |

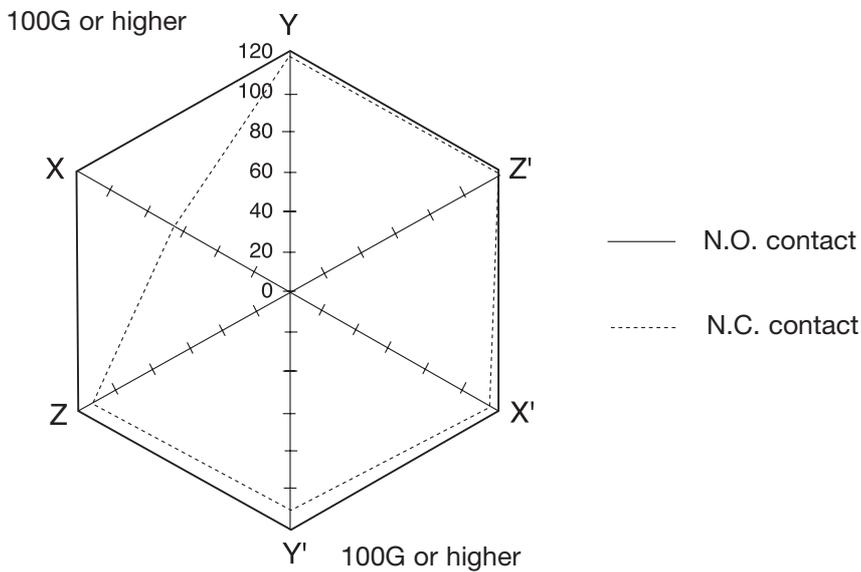
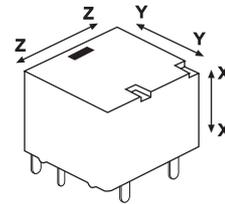
### VIBRATION RESISTANCE CHARACTERISTICS

- Test condition
  - Frequency: 10Hz-500Hz-10Hz
  - Acceleration: 43.1m/s<sup>2</sup>
  - Direction of vibration: see right diagram
  - Detection level: Contacts must not open 1ms or longer



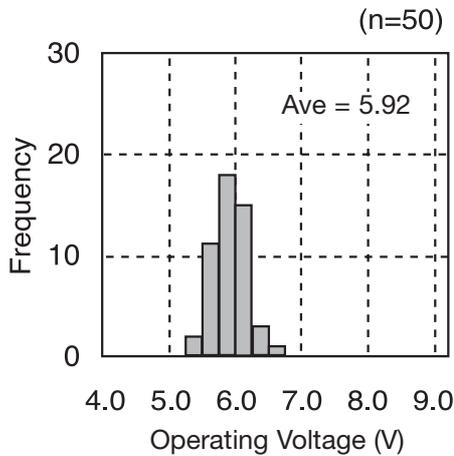
### SHOCK RESISTANCE CHARACTERISTICS

- Test condition
  - Shock application time: 11ms, half-sine wave
  - Shock direction: see right diagram
  - Detection level: Contacts must not open 1ms or longer

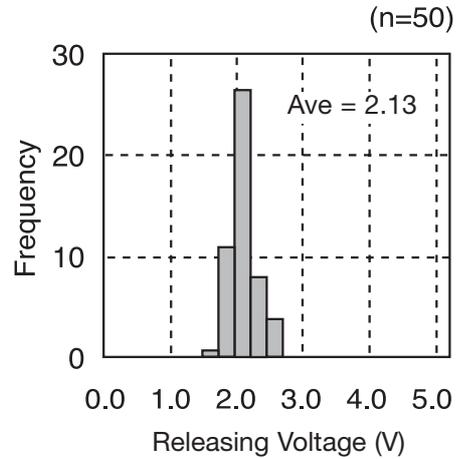


REFERENCE DATA (G8NW-2 12VDC)

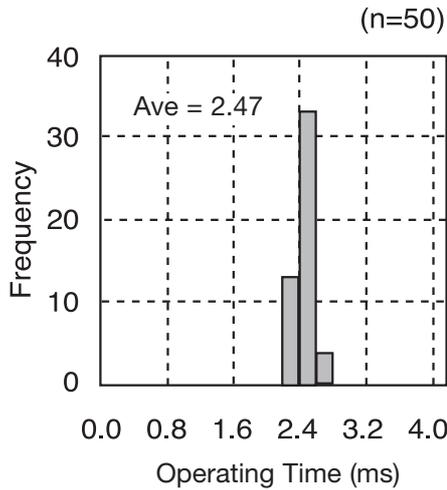
Distribution of operating voltage



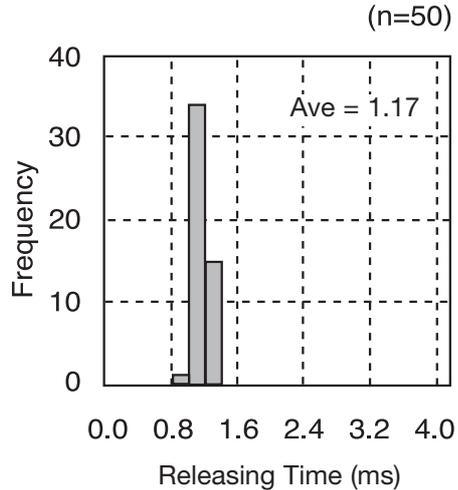
Distribution of releasing voltage



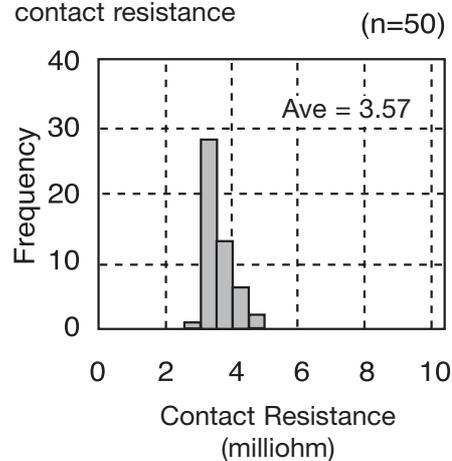
Distribution of operating time



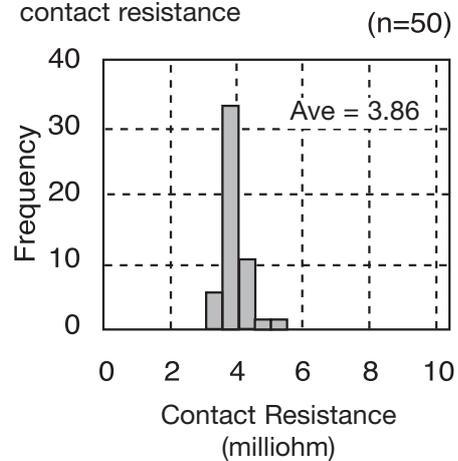
Distribution of releasing time



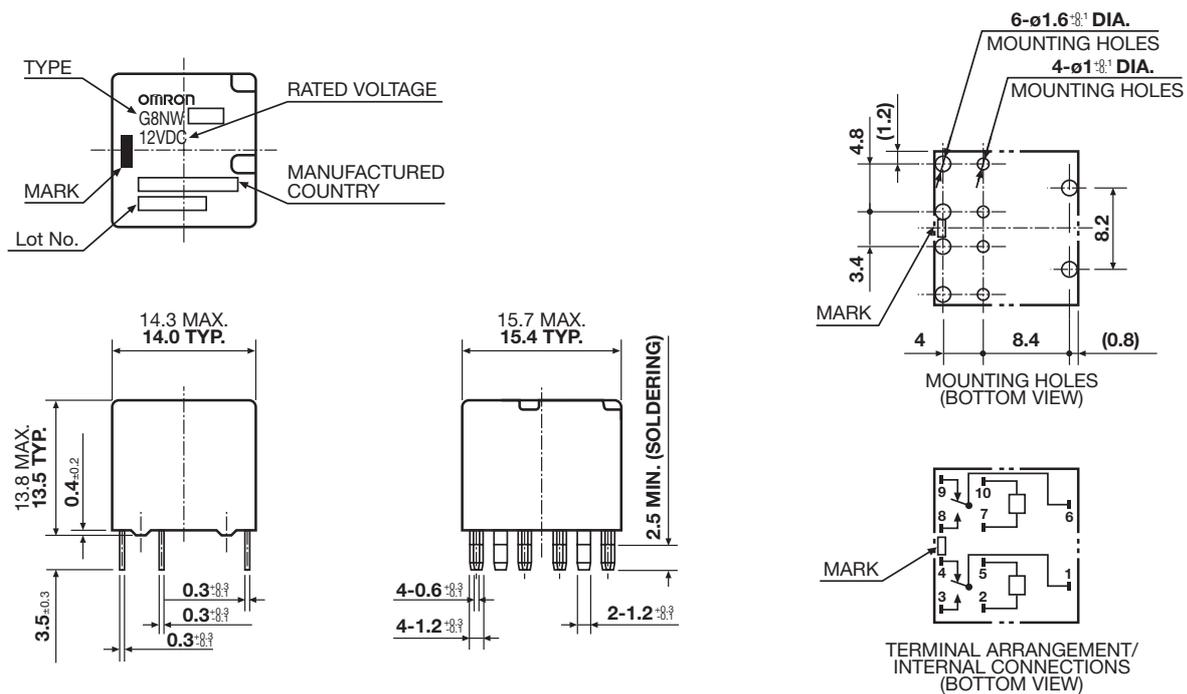
N.O. contact – Distribution of contact resistance



N.O. contact – Distribution of contact resistance



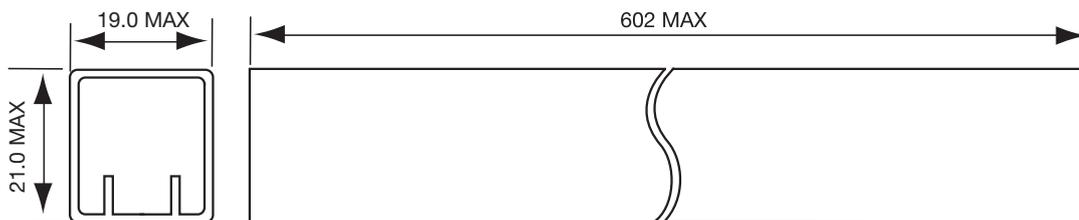
## Dimensions



- Omron PCB relays may be mounted in any convenient location that is dry and not exposed to excessive dust, SO<sub>2</sub>, H<sub>2</sub>S or organic gases.

- Omron PCB relays may be oriented in any desired direction. Whenever possible, however, care should be taken that they are not subjected to vibration along the direction of contact movement.

### Tube carrier



### Remarks

For use on any of the products, please contact your sales representative and confirm with spec sheet and actual usage condition.

We constantly endeavour to enhance the quality of our products and update our product offering; therefore, specifications and product availability are subject to change without notice.

Cat. No. C-G8NW-001 In the interest of product improvement, specifications are subject to change without notice.

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**OMRON**

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