OMRON

Ultra-Miniature Automotive PCB Relay

G8N1

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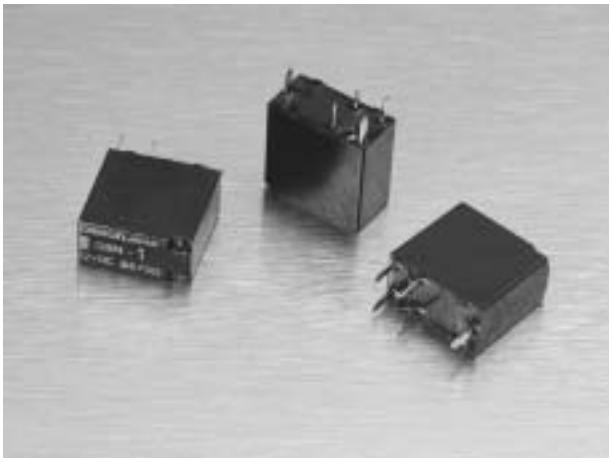


- Compact size
- High performance PCB relay
- 25A motor lock load
- Fully sealed construction
- Fully automated assembly
- SPDT contracts
- Pre-solder as for all terminal
- PWB pattern design is easy
- ISO9001/QS9000 series approval

Available Types

	Type
G8N-1 12VDC	Standard
G8N-1S 12VDC	High Sensitivity
G8N-1L 12VDC	High Temperature (105°C)
G8N-1H 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**
G8N-1 12VDC	225Ω	<7.2
G8N-1S 12VDC	180Ω	<6.5
G8N-1L 12VDC	225Ω	<7.2
G8N-1H 12VDC	180Ω	<6.5

Specifications

Temperature Range	-40 to +85°C (-1L,-1H: -40 to +105°C)
Mechanical Life	1,000,000 Operations
Electrical Life	100,000 Operations
Weight	4.1g

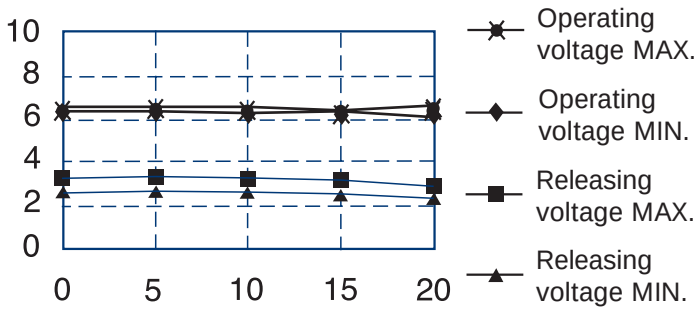
Application Examples

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

LIFE TEST I (Power window motor: G8N-1 12VDC)

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

■ Shift of pick-up drop-out voltage

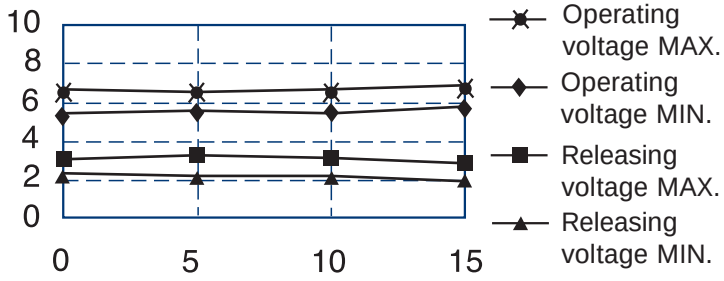


Characteristics		Specification		Before the test	After the test
Contact Resistance	N.O. Contact	100(mΩ) or lower	MAX	4.1	7.2
			MIN	2.8	3.5
			AVE	3.36	5.00
	N.C. Contact	100(mΩ) or lower	MAX	5.6	11.8
			MIN	3.9	5.0
			AVE	4.44	8.00
Insulation Resistance		100(mΩ) or higher		1000 or higher	1000 or higher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

LIFE TEST II (Door lock motor: G8N-1 12VDC)

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

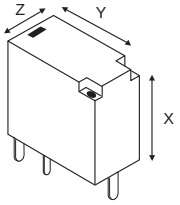
■ Shift of pick-up drop-out voltage

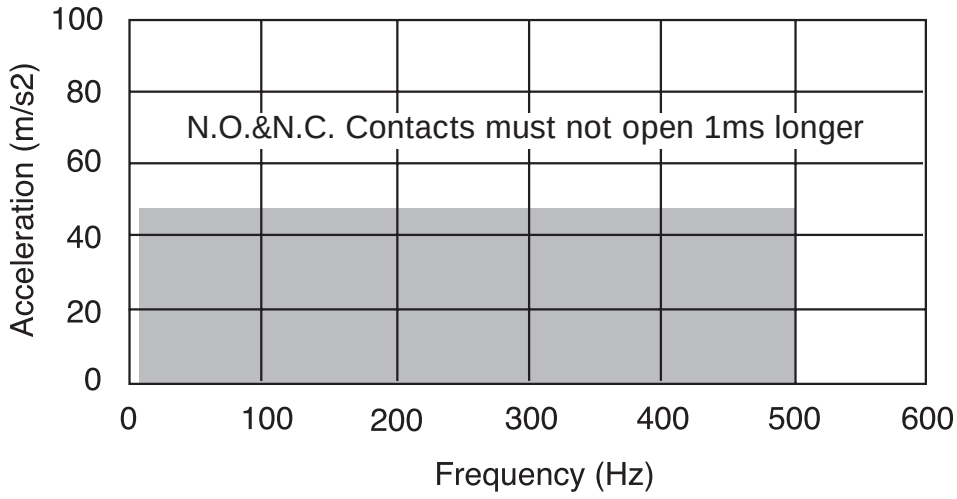


Characteristics		Specification		Before the test	After the test
Contact Resistance	N.O. Contact	100(mΩ) or lower	MAX	4.7	6.8
			MIN	3.2	3.5
			AVE	3.89	4.50
	N.C. Contact	100(mΩ) or lower	MAX	5.3	7.2
			MIN	3.7	4.0
			AVE	4.46	6.20
Insulation Resistance		100(mΩ) or higher		1000 or higher	1000 or higher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

VIBRATION RESISTANCE CHARACTERISTICS

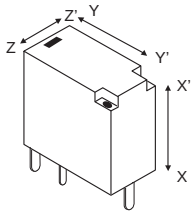
■ Test condition
Frequency: 10Hz-500Hz-10Hz
Acceleration: 43.1m/s2
Direction of vibration: see right diagram
Detection level: Contacts must not open 1ms or longer

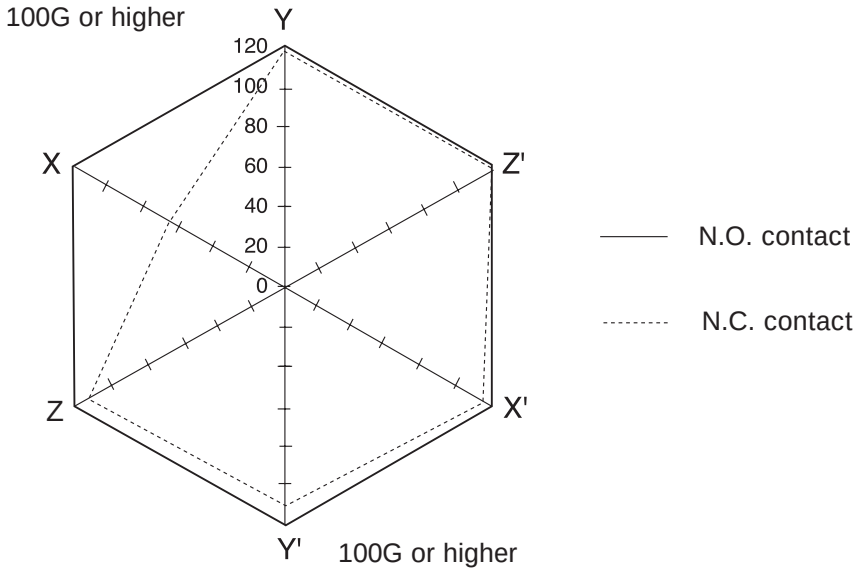




SHOCK RESISTANCE CHARACTERISTICS

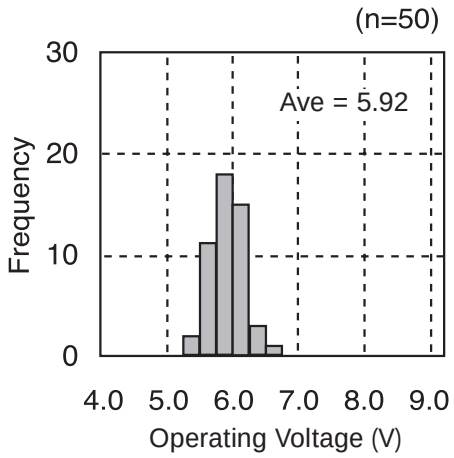
■ Test condition
Shock application time: 11ms, half-sine wave
Shock direction: see right diagram
Detection level: Contacts must not open 1ms or longer



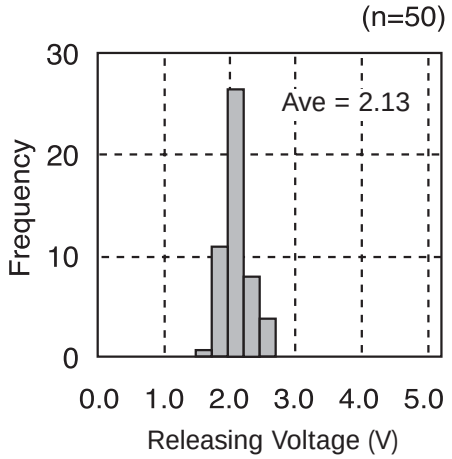


REFERENCE DATA (G8N-1 12VDC)

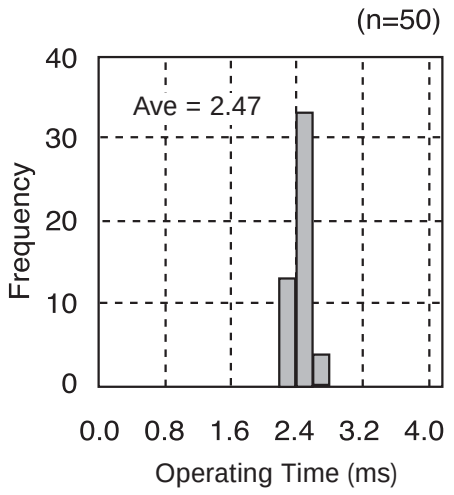
Distribution of operating voltage



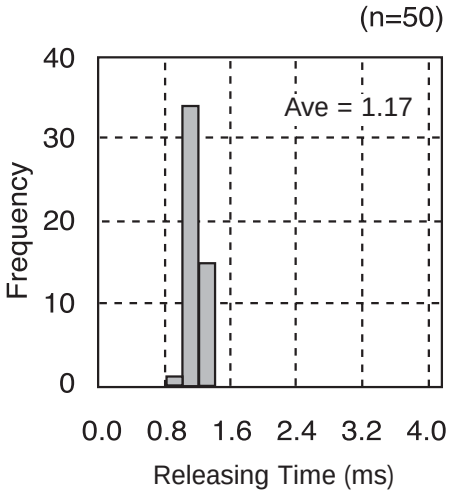
Distribution of releasing voltage



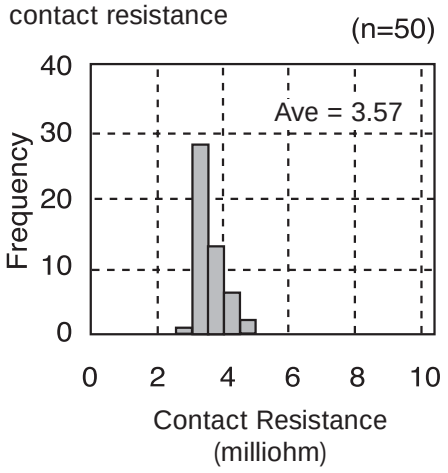
Distribution of operating time



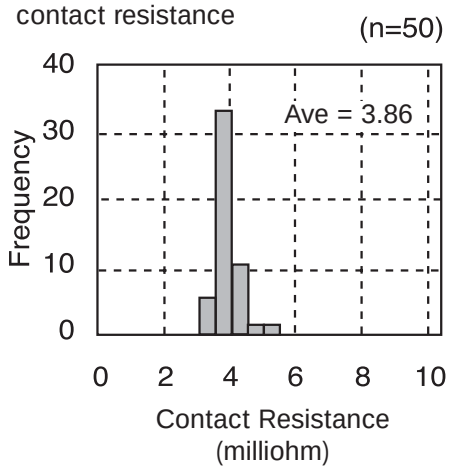
Distribution of releasing time



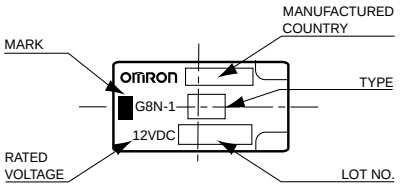
N.O. contact - Distribution of contact resistance

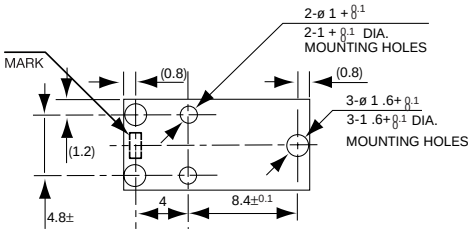


N.O. contact - Distribution of contact resistance

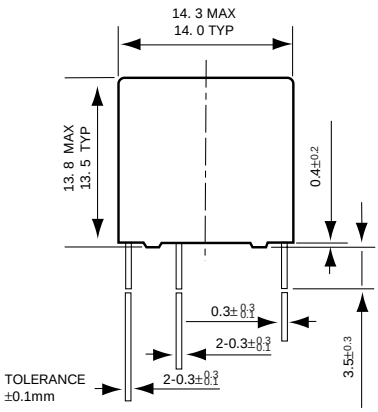


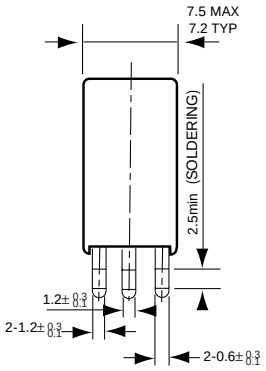
Dimensions

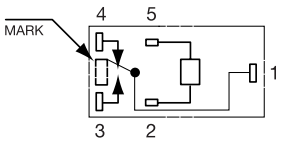




MOUNTING HOLES
(BOTTOM VIEW)



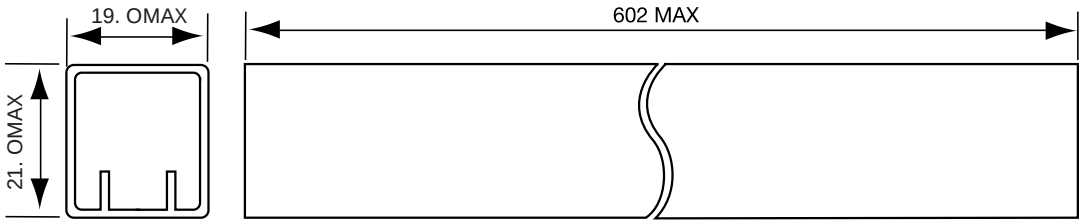




TERMINAL ARRANGEMENT/
INTERNAL CONNECTIONS
(BOTTOM VIEW)

- Omron PCB relays may be mounted in any convient location that is dry and not exposed to excessive dust, $S0_2$, H_2S 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 endeavor 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-G8N1-001 In the interest of product improvement, specifications are subject to change without notice.

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