



**THE DATASHEET OF
G8N-1L-DC12**



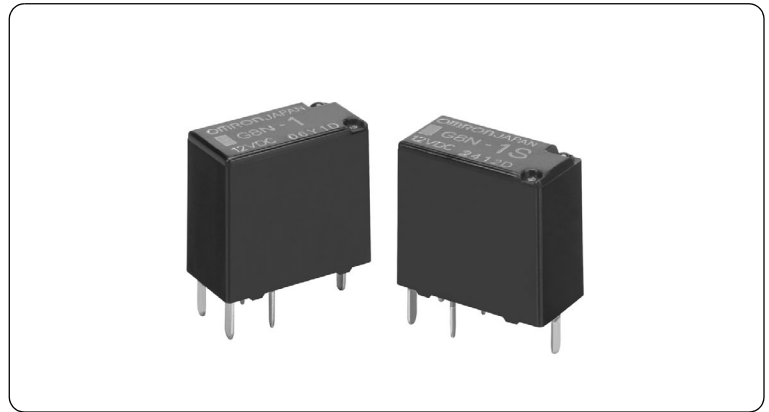
G8N

Micro-mini PCB relay for automobile use

**High-density design
(smallest class in the industry)
Half-size in comparison
with the existing type**

(Omron G8QN)

- Super-slim width (7.2mm). Good for parts layout.
- Even at a small size, high-wattage switching is possible due to the contacts and heat-release design. 100,000 times at 14VDC/25A (motor lock).



■ Purpose

- DC motor control for automobile parts (Door lock motor, power window motor, wiper motor, washer motor, sunroof motor, etc.)
- Flasher lamp (indicator or hazard)

■ Type standard

G8N-□□

① ② ③

| | Classification | Symbol | Meaning of the symbol |
|---|---|-------------------|-------------------------------------|
| ① | Basic type | G8N | Micro-mini relay for automobile use |
| ② | Number of contact poles and configuration | 1 | Standard contact configuration 1c |
| ③ | Spec/Appropriate symbol | Blank | Standard Spec |
| | | English character | Appropriate Spec (set individually) |

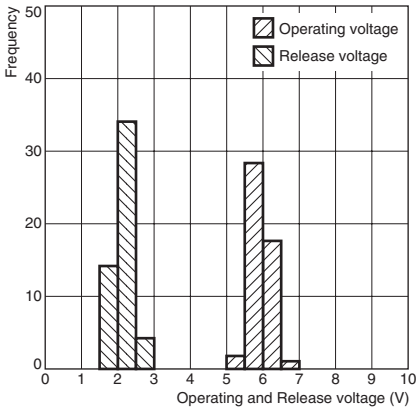
■ Ratings/Performance

| Item | Type | G8N-1 | G8N-1S | G8N-1L | G8N-1H | G8N-1U | G8N-1F | |
|---------------------------|--------------------------------------|---|---|----------------------|--|-----------------------------|---|--|
| | | Standard | Low operating voltage | High heat resistance | High heat resistance and Low operating voltage | Super low operating voltage | For flasher lamp | |
| Coil | Rated coil voltage | 12 VDC | | | | | | |
| | Coil resistance (at 20°C) | 225 Ω | 180 Ω | 225 Ω | 180 Ω | 130 Ω | | |
| | Service voltage range | 10 to 16 VDC | | | | | | |
| | Operating voltage (at 20°C) | 7.2 V or less | 6.5 V or less | 7.2 V or less | 6.5 V or less | 5.5 V or less | 7.2 V or less | |
| | Release voltage (at 20°C) | 1.0 V or more | | | | 0.8 V or more | | |
| | Max value of rated coil voltage (5A) | 14 VDC (continuous) 16 VDC at 15 min | 12 VDC (continuous) 16 VDC at 15 min | 16 VDC (continuous) | 14 VDC (continuous) 16 VDC at 15 min | 16 VDC at 3 min | 16 VDC (a fleeting moment) 85 times/min | |
| Contact | Contact configuration | 1c (SPDT) | | | | | | |
| | Contact material | AgSn type (non-cadmium) | | | | | PdRu alloy | |
| | Rated load | 14 VDC 25 A Motor load | | | | | 54 W lamp 85 times/min Polarized (No. 3 terminal+) | |
| | Max switching current | 30 A | | | | | | |
| Endurance (Lifetime) | Mechanical | 1,000,000 times | | | | | 10,000,000 times | |
| | Electrical (Rated load) | 100,000 times | | | | | 2000 hrs | |
| Mechanical | Impact resistance | Malfunction | 100 m/s ² | | | | | |
| | | Destruction | 1,000 m/s ² | | | | | |
| | Vibration resistance | Malfunction | 10~55 Hz, Peak to peak: 1.5 mm | | | | | |
| | | Destruction | 10~55 Hz, Peak to peak: 1.5 mm | | | | | |
| Ambient temperature range | | -40~+85°C | | -40~+105°C | | -40~+85°C | | |
| Weight | | About 4.0 g | | | | | | |

Reference data

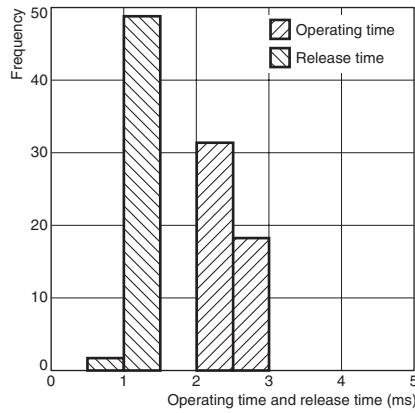
Operating voltage/Release voltage

Sample: G8N-1 12 VDC 225 Ω 50 pcs



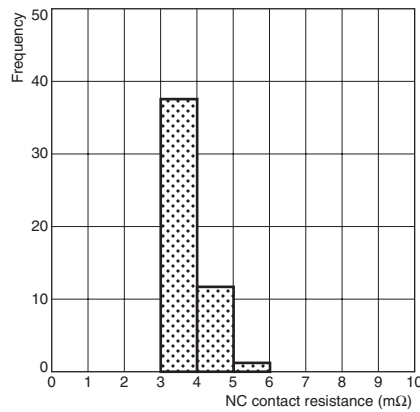
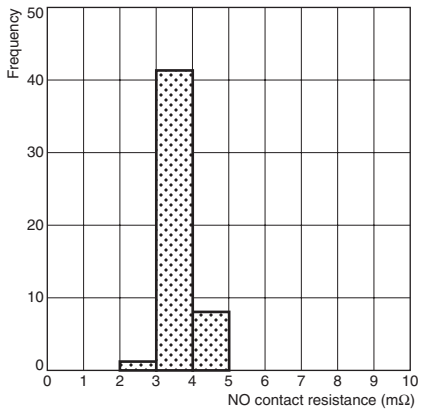
Operating time/Release time

Sample: G8N-1 12 VDC 225 Ω 50 pcs
Diode to absorb coil surge, without resistor



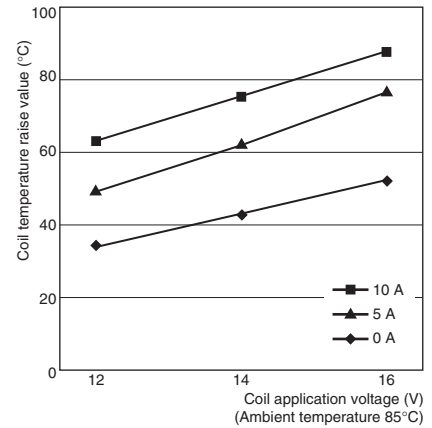
Contact resistance

Sample: G8N-1 12 VDC 225 Ω 50 pcs



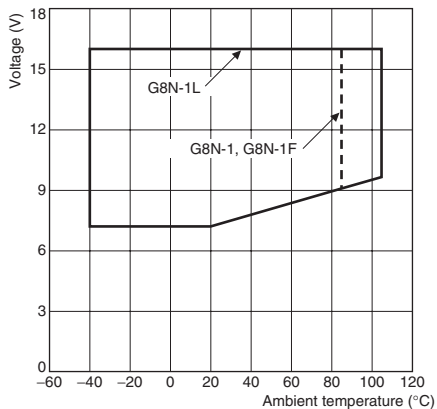
Coil temperature rise

Sample: G8N-1 12 VDC 225 Ω 10 pcs

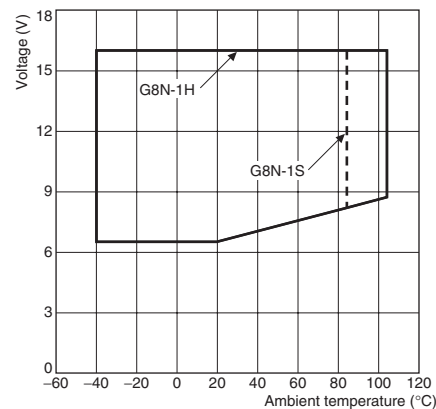


Ambient temperature and service voltage range (Cold start)

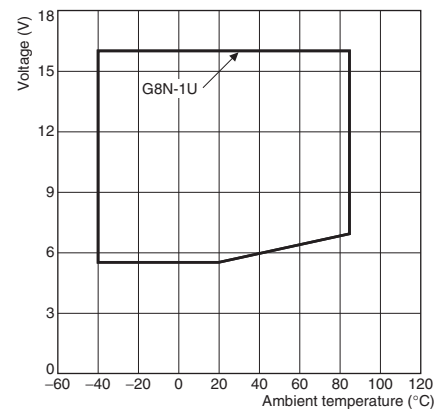
G8N-1, G8N-1L, G8N-1F



G8N-1S, G8N-1H



G8N-1U



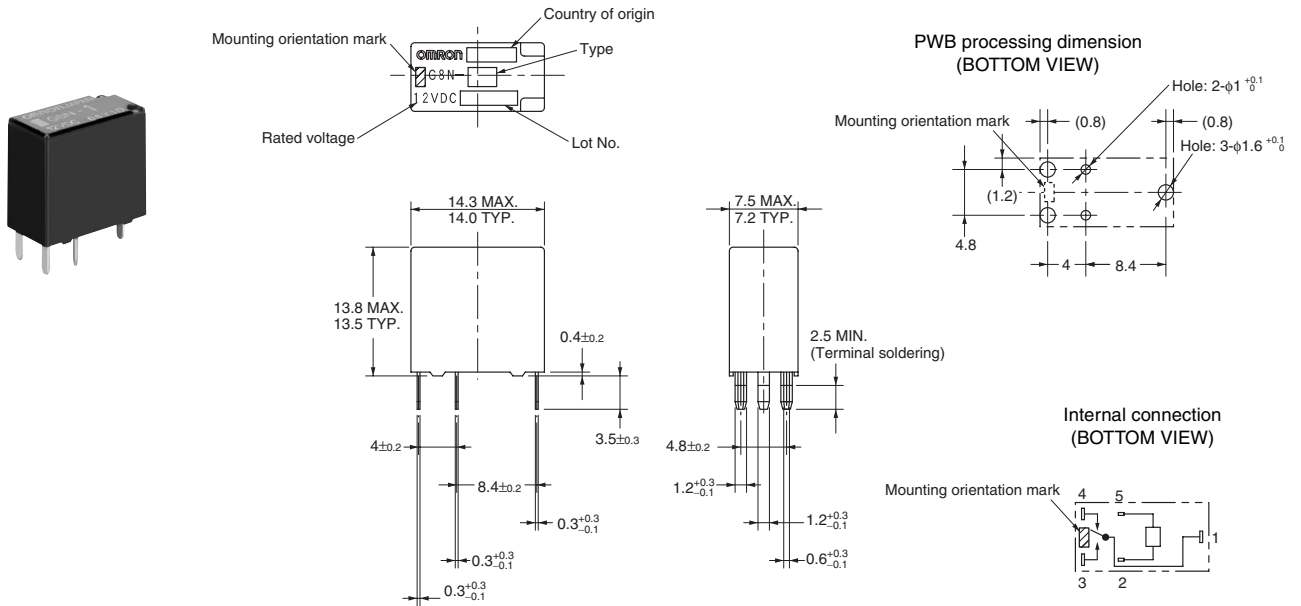
Reference data

Electrical endurance (Lifetime)

| Spec | Application/Load | Load current | Switching frequency | Switching time |
|--------|--------------------|--|---------------------|----------------|
| G8N-1S | Power window motor | Motor lock current (Input 25.4 A/Breaking 25 A) | On0.2 s/Off4.8 s | 100,000 |
| G8N-1 | Power window motor | Motor free current (Input 22.6 A/Steady 8 A/Brake current 13 A) | On1.5 s/Off6.0 s | 200,000 |
| G8N-1S | Wiper motor | Motor lock current (Input 30 A/Breaking 30 A) | On1.0 s/Off10.0 s | 170,000 |
| G8N-1H | Wiper motor | Motor free current (Input 22.2 A/Steady6.4 A/Brake current 16 A) | On0.2 s/Off0.8 s | 300,000 |

Contour dimension (Unit: mm)

G8N





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

Relay for PCB

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