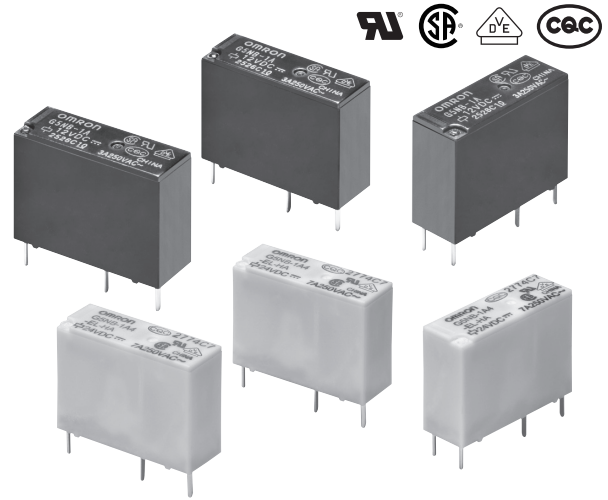


# G5NB

PCB Power Relay

## A Miniature Power Relay with 1-pole 3 A to 7 A High Capacity Switching Suitable for a Wide Range of Applications

- Highly efficient magnetic circuit for low power consumption (200 mW).
- Safety-oriented design with dielectric strength of 4,000 V between coil and contacts, and surge resistance of 10,000 V.
- Minimum 100,000 operations (-E type) or 200,000 operations (-EL type) durability at 5 A (250 VAC) switching performance.
- Support for high ambient temperature up to a maximum of 85°C. (-EL and -CF types support up to 105°C)
- Standard model conforms to UL/CSA/VDE/CQC standards.
- Conforms to IEC/EN 60335-1. (-HA type)
- Satisfies EN61010 reinforced insulation requirements.
- Conforms to IEC/EN60079-1, IEC/EN60079-15.  
(IEC/EN) 60079-1 clause 15.5 Enclosed-break devices (Group IIA) testing passed.  
(IEC/EN) 60079-15 clause 11.2 Sealed devices testing passed.
- Reduced power consumption with voltage holding and pulse width modulation (PWM) control (Only for G5NB-□-PW model)



### Model Number Legend

G5NB-□□□-□-□-□-□-□-□  
1 2 3 4 5 6 7 8 9

- |                                            |                                                                                                                                            |                                                                           |                                                                                               |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>1. Number of Poles</b><br>1 : 1-pole    | <b>4. Classification</b><br>None : Standard<br>E : High-capacity (rating 5 A)<br>EL : High-capacity and electrical durability (rating 7 A) | <b>6. Coil Insulation Class(UL1446)</b><br>None : Class B<br>CF : Class F | <b>8. High temperature rating</b><br>None : Standard<br>A85 : High temperature rating at 85°C |
| <b>2. Contact Form</b><br>A : SPST-NO (1a) | <b>5. Market Code</b><br>None : General purpose<br>HA : Home Appliance according to IEC/EN60335-1                                          | <b>7. Coil Holding Voltage</b><br>None : Standard<br>SW : Supported       | <b>9. Packing</b><br>None : Tray Packing<br>SP : Tube Packing                                 |

### Application Examples

Home appliances, Water heaters,  
Industrial equipment, Building automation

### Ordering Information

#### Standard/-E type

| Classification | Relay Function      | Contact form | Enclosure rating | Tray Packing     |                    |                                                                             | Tube Packing        |                    |                                                                           |
|----------------|---------------------|--------------|------------------|------------------|--------------------|-----------------------------------------------------------------------------|---------------------|--------------------|---------------------------------------------------------------------------|
|                |                     |              |                  | Model            | Rated coil voltage | Minimum packing unit                                                        | Model               | Rated coil voltage | Minimum packing unit                                                      |
| Standard       | Single stable relay | SPST-NO (1a) | Flux protection  | G5NB-1A          | 5,12,18,24 VDC     | Inner packaging:<br>100 pcs./tray<br><br>Outer packaging:<br>2,000 pcs./box | G5NB-1A-SP          | 5,12,24 VDC        | Inner packaging:<br>50 pcs/Tube<br><br>Outer packaging:<br>2,000 pcs./box |
|                |                     |              |                  | G5NB-1A-PW       | 5,12,24 VDC        |                                                                             | G5NB-1A-PW-SP       | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-CF       | 5,12,24 VDC        |                                                                             | G5NB-1A-CF-SP       | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-CF-PW    | 5,12,24 VDC        |                                                                             | G5NB-1A-CF-PW-SP    | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-HA       | 5,12,24 VDC        |                                                                             | G5NB-1A-HA-SP       | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-HA-CF    | 5,12,24 VDC        |                                                                             | G5NB-1A-HA-CF-SP    | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-HA-CF-PW | 5,12,24 VDC        |                                                                             | G5NB-1A-HA-CF-PW-SP | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A-HA-PW    | 5,12,24 VDC        |                                                                             | —                   | —                  |                                                                           |
| -E type        |                     |              | Sealed           | G5NB-1A4         | 5,12,18,24 VDC     |                                                                             | G5NB-1A4-SP         | 5,12,18,24 VDC     |                                                                           |
|                |                     |              | Flux protection  | G5NB-1A-E        | 5,12,18,24 VDC     |                                                                             | G5NB-1A-E-SP        | 5,12,24 VDC        |                                                                           |
|                |                     |              | Sealed           | G5NB-1A-E-HA     | 5,12,24 VDC        |                                                                             | G5NB-1A-E-HA-SP     | 5,12,24 VDC        |                                                                           |
|                |                     |              |                  | G5NB-1A4-E       | 5,12,18,24 VDC     |                                                                             | G5NB-1A4-E-SP       | 5,12,18,24 VDC     |                                                                           |

Note 1. When ordering, add the rated coil voltage to the model number.

Example: G5NB-1A DC5

Rated coil voltage

However, the notation of the coil voltage on the product case as well as on the packing will be marked as □□VDC.

Note 2. When ordering tape packing, add "-SP" to the model number.

Be sure since "-SP" is not part of the relay model number, it is not marked on the relay case.

Note 3. If you need a relay that complies with the international safety standard for fire resistance (IEC/EN60335-1), use the "-HA" type.

| Classification                                     | Relay Function      | Contact form | Enclosure rating | Tray Packing      |                    |                                 | Tube Packing         |                    |                                 |
|----------------------------------------------------|---------------------|--------------|------------------|-------------------|--------------------|---------------------------------|----------------------|--------------------|---------------------------------|
|                                                    |                     |              |                  | Model             | Rated coil voltage | Minimum packing unit            | Model                | Rated coil voltage | Minimum packing unit            |
| High-capacity and electrical durability<br>G5NB-EL | Single stable relay | SPST-NO (1a) | Flux protection  | G5NB-1A-EL-HA-A85 | 5,12,24 VDC        | Inner packaging: 100 pcs./tray  | G5NB-1A-EL-HA-A85-SP | 5,12,24 VDC        | Inner packaging: 50 pcs/Tube    |
|                                                    |                     |              | Sealed           | G5NB-1A4-EL-HA    | 5,12,24 VDC        |                                 | G5NB-1A4-EL-HA-SP    | 5,12,24 VDC        |                                 |
|                                                    |                     |              |                  | G5NB-1A4-EL-HA-PW | 5,12,24 VDC        | Outer packaging: 2,000 pcs./box | G5NB-1A4-EL-HA-PW-SP | 5,12,24 VDC        | Outer packaging: 2,000 pcs./box |
|                                                    |                     |              |                  | G5NB-1A4-EL-HA-CF | 5,12,24 VDC        |                                 | G5NB-1A4-EL-HA-CF-SP | 5,12,24 VDC        |                                 |

## ■ Ratings

| Item |        | Rated current<br>(mA) | Coil resistance<br>(Ω) | Must operate voltage<br>(V) | Must release voltage<br>(V) | Max. voltage<br>(V) | Power consumption<br>(mW)  |
|------|--------|-----------------------|------------------------|-----------------------------|-----------------------------|---------------------|----------------------------|
| DC   | 5 VDC  | 40                    | 125                    | 75% max.                    | 10% min.<br>10 to 31%*      | 180%<br>(at 23°C)   | Approx. 200<br>Approx. 32* |
|      | 12 VDC | 16.7                  | 720                    |                             |                             |                     |                            |
|      | 18 VDC | 11.1                  | 1,620                  |                             |                             |                     |                            |
|      | 24 VDC | 8.3                   | 2,880                  |                             |                             |                     |                            |

| Item |        | Rated current<br>(mA) | Coil resistance<br>(Ω) | Must operate voltage<br>(V) | Must release voltage<br>(V) | Max. voltage<br>(V) | Power consumption<br>(mW)  |
|------|--------|-----------------------|------------------------|-----------------------------|-----------------------------|---------------------|----------------------------|
| DC   | 5 VDC  | 40                    | 125                    | 75% max.                    | 10% min.<br>10 to 39%*      | 160%<br>(at 23°C)   | Approx. 200<br>Approx. 50* |
|      | 12 VDC | 16.7                  | 720                    |                             |                             |                     |                            |
|      | 24 VDC | 8.3                   | 2,880                  |                             |                             |                     |                            |

## ●Contacts

| Item                   | G5NB Standard                    | G5NB-E         | G5NB-EL        |
|------------------------|----------------------------------|----------------|----------------|
| Contact Type           | Single                           |                |                |
| Contact material       | Ag-alloy (Cd free)               |                |                |
| Rated load             | 3 A at 125 VAC<br>3 A at 250 VAC | 5 A at 250 VAC | 7 A at 250 VAC |
|                        | 3 A at 30 VDC                    | 3 A at 30 VDC  | 5 A at 30 VDC  |
| Rated carry current    | 3 A                              | 5 A            | 7 A            |
| Max. switching voltage | 250 VAC, 30 VDC                  |                |                |
| Max. switching current | 3 A                              | 5 A            | 7 A            |

## ■ Characteristics

| Item                                        |                                       | G5NB Standard                                                                                              | G5NB-E                                                                | G5NB-EL                                                                                                   | G5NB-EL-A85                                                                                               |
|---------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Contact resistance *1                       |                                       | 100 mΩ max.                                                                                                |                                                                       |                                                                                                           |                                                                                                           |
| Operate time                                |                                       | 10 ms max.                                                                                                 |                                                                       |                                                                                                           |                                                                                                           |
| Release time                                |                                       | 10 ms max.                                                                                                 |                                                                       |                                                                                                           |                                                                                                           |
| Insulation resistance *2                    |                                       | 1,000 MΩ min.                                                                                              |                                                                       |                                                                                                           |                                                                                                           |
| Dielectric strength                         | Between coil and contacts             | 4,000 VAC, 50/60 Hz for 1 min                                                                              |                                                                       |                                                                                                           |                                                                                                           |
|                                             | Between contacts of the same polarity | 750 VAC, 50/60 Hz for 1 min                                                                                |                                                                       |                                                                                                           |                                                                                                           |
| Insulation distance                         | Between coil and contacts             | Clearance: 6 mm, Creepage: 6 mm                                                                            |                                                                       |                                                                                                           |                                                                                                           |
| Impulse withstand voltage                   | Between coil and contacts             | 10 kV (1.2 x 50 μs)                                                                                        |                                                                       |                                                                                                           |                                                                                                           |
| Vibration resistance                        | Destruction                           | 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)                                      |                                                                       |                                                                                                           |                                                                                                           |
|                                             | Malfunction                           | 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)                                      |                                                                       |                                                                                                           |                                                                                                           |
| Shock resistance                            | Destruction                           | 1,000 m/s <sup>2</sup>                                                                                     |                                                                       |                                                                                                           |                                                                                                           |
|                                             | Malfunction                           | 100 m/s <sup>2</sup>                                                                                       |                                                                       |                                                                                                           |                                                                                                           |
| Durability                                  | Mechanical                            | 5,000,000 operations min.                                                                                  |                                                                       |                                                                                                           |                                                                                                           |
|                                             | Electrical *3 (rated load)            | 200,000 operations at 125 VAC, 3A<br>100,000 operations at 250 VAC, 3A<br>200,000 operations at 30 VDC, 3A | 100,000 operations at 250 VAC, 5A<br>200,000 operations at 30 VDC, 3A | 200,000 operations at 250 VAC, 5A<br>50,000 operations at 250 VAC, 7A<br>100,000 operations at 30 VDC, 5A | (At ambient temperature of 85°C)<br>100,000 operations at 250 VAC, 5A<br>50,000 operations at 250 VAC, 7A |
| Failure rate (P level) (reference value) *4 |                                       | DC5V 10mA                                                                                                  |                                                                       |                                                                                                           |                                                                                                           |
| Ambient operating temperature               |                                       | -40°C to 85°C<br>-40°C to 105°C (Only -EL -CF type *5)                                                     |                                                                       |                                                                                                           |                                                                                                           |
| Ambient operating humidity                  |                                       | 5% to 85% (with no icing or condensation)                                                                  |                                                                       |                                                                                                           |                                                                                                           |
| Weight                                      |                                       | Approx. 4 g                                                                                                |                                                                       |                                                                                                           |                                                                                                           |

Note: Values in the above table are the initial values at 23°C.

\*1. Measurement conditions: 5 VDC, 1 A, voltage drop method

\*2. Measurement conditions: Measured at the same points as the dielectric strength using a 500 VDC ohmmeter.

\*3. Electrical durability values were measured with a resistive load and switching frequencies of Standard & -E type: 1,800 operations/hour and -EL type: 900 operations/hour.

\*4. This value was measured at a switching frequency of 120 operations/min.

\*5. If 85°C is exceeded, the relay does not comply with the Electrical Appliance and Material Safety Act.

## ■ Engineering Data

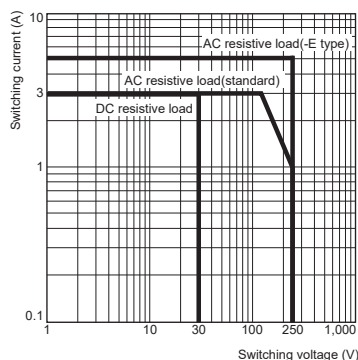
● Actual electrical durability performance (\* The following data is from tests conducted using our in-house simulated load circuits. They are reference values, not guaranteed values.)

| Item          | Application                | Load voltage |     | Inrush current  | Steady current | Break current | Ambient temperature | Switching frequency |        | Switching operations (Approx.) |
|---------------|----------------------------|--------------|-----|-----------------|----------------|---------------|---------------------|---------------------|--------|--------------------------------|
|               |                            | (VAC)        |     | (A)             | (A)            | (A)           |                     | On(s)               | Off(s) | (Operation)                    |
| G5NB Standard | Motor and lamp load        | AC           | 120 | 2.5             | 0.5            | 0.5           | 23                  | 1                   | 1      | 250,000                        |
| G5NB Standard | Valve load (with varistor) | DC           | 160 | 0.24            | 0.24           | 0.24          | 23                  | 1                   | 1      | 250,000                        |
| G5NB Standard | Pump load                  | AC           | 140 | 5.4 (0-P)       | 1.6            | 1.6           | 23                  | 1                   | 1      | 200,000                        |
| G5NB Standard | Motor load                 | AC           | 100 | 10.7 (0-P)      | 1.1            | 1.1           | 23                  | 1                   | 1      | 200,000                        |
| G5NB-E        | Fan motor load             | AC           | 250 | 21.4 (0-P)      | 0.1            | 0.1           | 23                  | 1                   | 1      | 50,000                         |
| G5NB-EL       | Simulated inductive load   | AC           | 250 | 4A cos 0.4 dia. |                |               | 85                  | 2                   | 2      | 40,000                         |

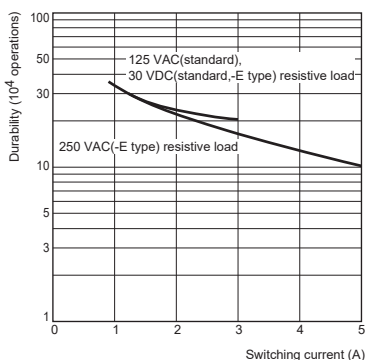
## Engineering Data

### G5NB

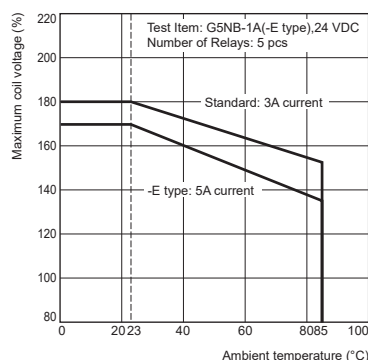
#### Maximum Switching Capacity (Standard, -E type)



#### Durability (Standard, -E type)

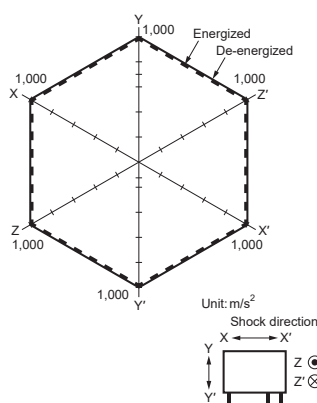


#### Ambient Temperature vs. Maximum Coil Voltage (Standard, -E type)



Note. The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

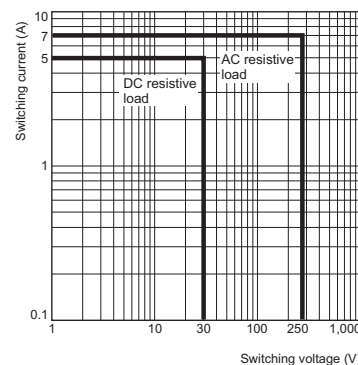
#### Shock malfunction (Standard, -E type)



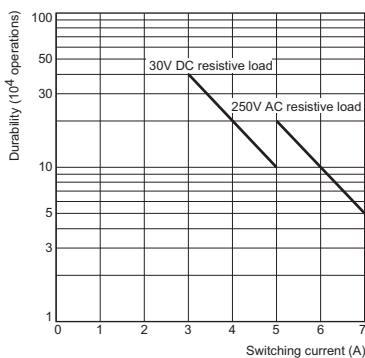
Test Item: G5NB-1A 24 VDC  
Number of Relays: 5 pcs  
Test Method: Shock is applied 3 times in 6 directions along 3 axes and the level at which shock caused malfunction is measured. The energized voltage is 100% of the rated voltage.  
Rating: 100 m/s<sup>2</sup>

### G5NB-EL

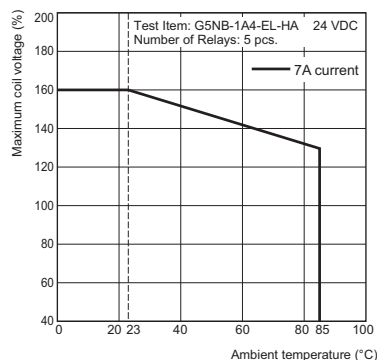
#### Maximum Switching Capacity



#### Durability

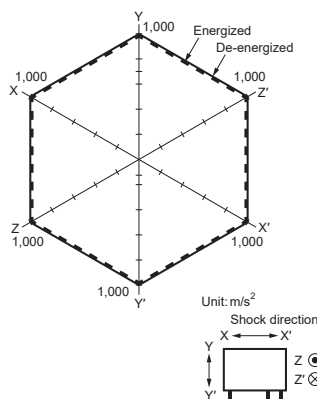


#### Ambient Temperature vs. Maximum Coil Voltage



Note. The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

#### Shock malfunction



Test Item: G5NB-1A4-EL-HA 24 VDC  
Number of Relays: 5 pcs  
Test Method: Shock is applied 3 times in 6 directions along 3 axes and the level at which shock caused malfunction is measured. The energized voltage is 100% of the rated voltage.  
Rating: 100 m/s<sup>2</sup>

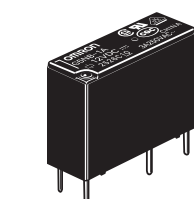
## ■ Dimensions

CAD Data marked products, 2D drawings and 3D CAD models are available.  
For CAD information, please visit our website, which is noted on the last page.

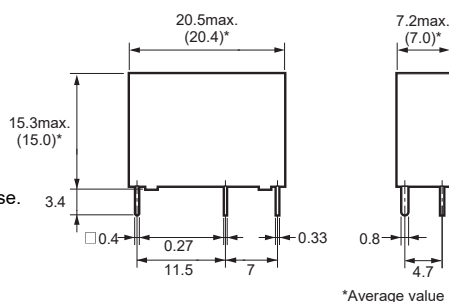
(Unit: mm)

G5NB-1A(4)(-E)(-HA)(-CF)(-PW)

G5NB-1A(4)-EL-HA(-A85)(-CF)(-PW)



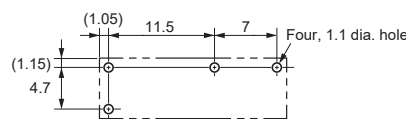
Note. -HA type has a white case.



## PCB Mounting Holes

(Bottom View)

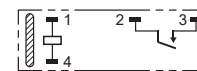
Tolerance: ±0.1 mm



## Terminal Arrangement/

Internal Connections

(Bottom View)



(No coil polarity)

CAD Data

## ■ Approved Standards

The approval rating values for overseas standards are different from the performance values determined individually. Confirm the values before use.

●UL Recognized: (File No. E41515)

CSA Certified: (File No. LR31928)

| Model                                    | Contact form | Coil ratings | Contact ratings                                                                                                                                                                                                    | Number of test operations                                          |
|------------------------------------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| G5NB-1A(4)(-HA)(-CF)(-PW)                | SPST-NO (1a) | 5 to 24 VDC  | 3 A 250 VAC (Resistive) 85°C<br>3 A 30 VDC (Resistive) 70°C                                                                                                                                                        | 100,000<br>6,000                                                   |
| G5NB-1A(4)-E(-HA)                        | SPST-NO (1a) | 5 to 24 VDC  | 5 A 250 VAC (Resistive) 85°C<br>5 A 30 VDC (Resistive) 70°C<br>C300 Pilot duty, 85°C                                                                                                                               | 6,000<br>50,000                                                    |
| G5NB-1A4-EL-HA(-PW)<br>G5NB-1A-EL-HA-A85 | SPST-NO (1a) | 5 to 24 VDC  | 7 A 250 VAC (General Purpose) 85°C<br>5 A 250 VAC (General Purpose) 85°C<br>5 A 30 VDC (Resistive) 85°C                                                                                                            | 30,000<br>50,000<br>6,000                                          |
| G5NB-1A4-EL-HA-CF                        | SPST-NO (1a) | 5 to 24 VDC  | 7 A 250 VAC (General Purpose) 85°C<br>5 A 250 VAC (Resistive) 105°C<br>2FLA/12 LRA 250 VAC 105°C<br>5 A 30 VDC (Resistive) 85°C<br>5 A 250 VAC (Resistive) 85°C<br>B300 Pilot duty, 85°C<br>C300 Pilot duty, 105°C | 30,000<br>50,000<br>30,000<br>6,000<br>100,000<br>30,000<br>30,000 |

●EN/IEC, VDE Certified (Certificate No. 137575)

| Model                                    | Contact form | Coil ratings      | Contact ratings                                                                                                                                                                                                       | Number of test operations                         |
|------------------------------------------|--------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| G5NB-1A(4)(-HA)(-CF)(-PW)                | SPST-NO (1a) | 5, 12, 18, 24 VDC | 3 A 250 VAC (Resistive) 85°C<br>3 A 30 VDC (Resistive) 85°C                                                                                                                                                           | 100,000                                           |
| G5NB-1A(4)-E(-HA)                        | SPST-NO (1a) | 5, 12, 18, 24 VDC | 5 A 250 VAC (Resistive) 85°C<br>5 A 30 VDC (Resistive) 85°C<br>3 A 250 VAC (Resistive) 85°C                                                                                                                           | 10,000<br>100,000                                 |
| G5NB-1A4-EL-HA(-PW)<br>G5NB-1A-EL-HA-A85 | SPST-NO (1a) | 5, 12, 24 VDC     | 7 A 250 VAC (Resistive) 85°C<br>5 A 30 VDC (Resistive) 85°C                                                                                                                                                           | 10,000                                            |
| G5NB-1A4-EL-HA-CF                        | SPST-NO (1a) | 5, 12, 24 VDC     | 7 A 250 VAC (Resistive) 85°C<br>5 A 30 VDC (Resistive) 85°C<br>5 A 250 VAC (Resistive) 105°C<br>5 A 250 VAC (Resistive) 85°C<br>5 (2) A 250 VAC -40/85°C (EN/IEC60730-1)<br>3 (1) A 250 VAC -40/105°C (EN/IEC60730-1) | 10,000<br>50,000<br>100,000<br>100,000<br>100,000 |

●GB, CQC Certified GB/T21711.1

| Model                                      | Contact form | Coil ratings      | Contact ratings              | Number of test operations |
|--------------------------------------------|--------------|-------------------|------------------------------|---------------------------|
| G5NB-1A(4)                                 | SPST-NO (1a) | 5, 12, 18, 24 VDC | 3 A 250 VAC (Resistive) 85°C | 100,000                   |
| G5NB-1A(4)-E                               | SPST-NO (1a) | 5, 12, 18, 24 VDC | 5 A 250 VAC (Resistive) 70°C | 100,000                   |
| G5NB-1A(4)-EL-HA(-PW)<br>G5NB-1A-EL-HA-A85 | SPST-NO (1a) | 5, 12, 24 VDC     | 7 A 250 VAC (Resistive) 85°C | 10,000                    |

|                                                 |                                                                                                                |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Creepage distance                               | 6.0 mm min.                                                                                                    |
| Clearance distance                              | 6.0 mm min.                                                                                                    |
| Insulation material group                       | IIIa                                                                                                           |
| Type of insulation coil-contact circuit         | Pollution degree 2 / Reinforced (Sealed)<br>Pollution degree 3 / Basic (Flux protection) / Reinforced (Sealed) |
| Type of interruption                            | Micro disconnection                                                                                            |
| Rated Insulation voltage                        | 250 V                                                                                                          |
| Pollution degree                                | 3                                                                                                              |
| Rated voltage system                            | 250 V                                                                                                          |
| Over voltage category                           | III                                                                                                            |
| Category of protection according to IEC 61810-1 | RT II (Flux protection) / RT III (Sealed)                                                                      |
| Glow wire according to IEC 60335-1              | <HA Models only><br>GWT 750°C min. (IEC 60695-2-11) / GWFI 850°C min. (IEC 60695-2-12)                         |
| Flammability class according to UL94            | V-0                                                                                                            |

### ●Regarding IEC/EN60079-1, -15

Type of protection: Enclosed-break devices (Group IIA\*)

(IEC/EN) 60079-1 clause 15.5 testing passed.

Type of protection: Sealed devices

(IEC/EN) 60079-15 clause 11.2 testing passed.

\*Gas protection group definition:

- Group IIA: (55 ± 0.5) % hydrogen/air at atmospheric pressure;
- Group IIB: (37 ± 0.5) % hydrogen/air at atmospheric pressure;
- Group IIC: (40 ± 1) % hydrogen, (20 ± 1) % oxygen and the remainder nitrogen at atmospheric pressure or alternatively (27.5 ± 1.5) % hydrogen/air at an overpressure at a pressure equal to 1.5 times atmospheric pressure.

Please contact your local OMRON representative for more details on the standards.

## ■Precautions

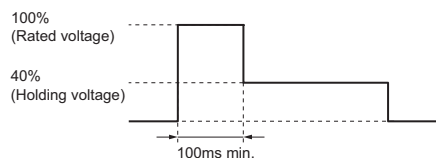
●Please refer to “PCB Relays Common Precautions” for correct use.

### Correct Use

#### ●Coil Voltage Reduction (Holding Voltage) after Relay Operation

- If the coil voltage is reduced to the holding voltage after Relay operation, first apply the rated voltage to the coil for at least 100 ms, as shown below.
- A voltage of at least 40% (Standard/-E type) or 50% (-EL type) of the rated voltage is required for the coil holding voltage. Do not allow voltage fluctuations to cause the coil holding voltage to fall below this level.

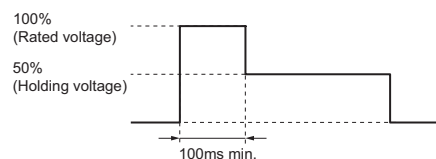
#### G5NB Standard/-E type



|                 | Applied coil voltage | Coil resistance*              | Power consumption |
|-----------------|----------------------|-------------------------------|-------------------|
| Rated voltage   | 100%                 | 125Ω (5 VDC)<br>720Ω (12 VDC) | Approx. 200 mW    |
| Holding voltage | 40%                  | 2,880Ω (24 VDC)               | Approx. 32 mW     |

\* The coil resistance were measured at a coil temperature of 23°C with tolerances of ± 10%.

#### G5NB -EL type



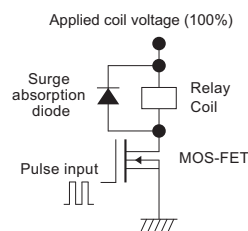
|                 | Applied coil voltage | Coil resistance*              | Power consumption |
|-----------------|----------------------|-------------------------------|-------------------|
| Rated voltage   | 100%                 | 125Ω (5 VDC)<br>720Ω (12 VDC) | Approx. 200 mW    |
| Holding voltage | 50%                  | 2,880Ω (24 VDC)               | Approx. 50 mW     |

\* The coil resistance were measured at a coil temperature of 23°C with tolerances of ± 10%.

#### ●Power consumption reduction of coil with pulse width modulation (PWM)

- Models with PWM drive capability (-PW of Standard/-E type) can reduce coil holding current with PWM control. This function reduces power consumption by reducing the current held by coil.
- Apply the rated voltage for at least 100 ms at the time of relay operation.
- The following are our verification conditions. When using, it be sure to check the actual machine under the actual usage conditions.

#### ■Example of drive circuit ■Conditions of validation carried out by OMRON



- Applied voltage: rated voltage
- Duty: 50% or more
- Frequency: 10 kHz or more
- Diode Vf: 0.4 V or less

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Device & Module Solutions Company

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