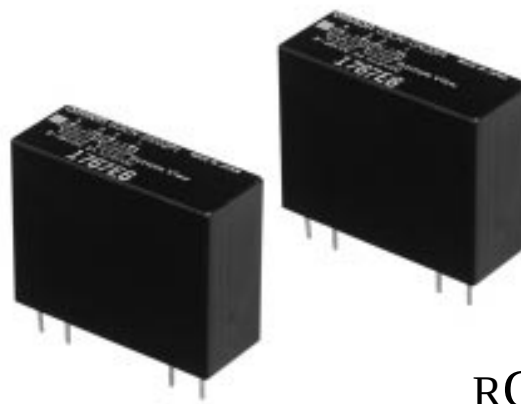


## Solid-state Relay

## G3CN

### Low-cost, PCB-mounting SSR for FA Equipment Requiring High Reliability

- Wide I/O voltage range: 3 to 28 VDC input and 75 to 264 VAC or 3 to 28 VDC input and 3 to 52.8 VDC output.
- Two load currents available: 2 A and 3 A
- Flat and vertical models available for a variety of applications.



RC

## Ordering Information

| Isolation    | Zero cross function | Indicator            | Applicable output load | Rated input voltage | Model           |
|--------------|---------------------|----------------------|------------------------|---------------------|-----------------|
| Phototriac   | Yes                 | No                   | 2 A at 75 to 264 VAC   | 4 to 24 VDC         | G3CN-202P-US    |
|              |                     |                      | 3 A at 75 to 264 VAC   |                     | G3CN-202P1-US*  |
|              |                     |                      |                        |                     | G3CN-203P-US    |
|              |                     |                      |                        |                     | G3CN-203P1-US*  |
| Phototriac   | No                  |                      | 2 A at 75 to 264 VAC   | 5, 12, 24 VDC       | G3CN-202PL-US   |
|              |                     |                      | 3 A at 75 to 264 VAC   |                     | G3CN-202PL1-US* |
|              |                     |                      |                        |                     | G3CN-203PL-US   |
|              |                     |                      |                        |                     | G3CN-203PL1-US* |
| Photocoupler | ---                 | 2 A at 3 to 52.8 VDC | 4 to 24 VDC            | G3CN-DX02P-US       |                 |
|              |                     | 3 A at 3 to 52.8 VDC |                        | G3CN-DX02P1-US*     |                 |
|              |                     |                      |                        | G3CN-DX03P-US       |                 |
|              |                     |                      |                        | G3CN-DX03P1-US*     |                 |

\*Vertical models.

## Specifications

### ■ Ratings

#### Input

| Model                          | Rated voltage | Operating voltage | Impedance                                | Voltage level        |                      |
|--------------------------------|---------------|-------------------|------------------------------------------|----------------------|----------------------|
|                                |               |                   |                                          | Must operate voltage | Must release voltage |
| G3CN-202P(1)<br>G3CN-203P(1)   | 4 to 24 VDC   | 3 to 28 VDC       | 1.5 kW <sup>+20%</sup> / <sub>-10%</sub> | 3 VDC max.           | 1 VDC min.           |
| G3CN-202PL(1)                  | 5 VDC         | 4 to 6 VDC        | 390 W <sup>+20%</sup>                    | 4 VDC max.           |                      |
| G3CN-203PL(1)                  | 12 VDC        | 9.6 to 14.4 VDC   | 900 W <sup>+20%</sup>                    | 9.6 VDC max.         |                      |
|                                | 24 VDC        | 19.2 to 28.8 VDC  | 2 kW <sup>+20%</sup>                     | 19.2 VDC max.        |                      |
| G3CN-DX02P(1)<br>G3CN-DX03P(1) | 4 to 24 VDC   | 3 to 28 VDC       | 1.5 kW <sup>+20%</sup> / <sub>-10%</sub> | 3 VDC max.           |                      |

**Note:** The input impedance is measured at the maximum value of the rated supply voltage. For example, with the model rated at 4 to 24 VDC, the input impedance is measured at 24 VDC.

## Output

| Model                         | Applicable load    |                   |                       |
|-------------------------------|--------------------|-------------------|-----------------------|
|                               | Rated load voltage | Load current      | Inrush current        |
|                               |                    | Without heat sink |                       |
| G3CN-202P(1)<br>G3CN-202PL(1) | 75 to 264 VAC      | 0.1 to 2 A        | 30 A (60 Hz, 1 cycle) |
| G3CN-203P(1)<br>G3CN-203PL(1) |                    | 0.1 to 3 A        | 45 A (60 Hz, 1 cycle) |
| G3CN-DX02P(1)                 | 3 to 52.8 VDC      | 0.1 to 2 A        | 12 A (10 ms)          |
| G3CN-DX03P(1)                 |                    | 0.1 to 3 A        | 18 A (10 ms)          |

## ■ Characteristics

| Item                   | G3CN-202P(1)/203P(1)                                                              | G3CN-202PL(1)/203PL(1)                             | G3CN-DX02P(1)/03P(1)  |
|------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|
| Operate time           | 1/2 of load power source cycle + 1 ms max.                                        | 1 ms max.                                          | 0.5 ms max.           |
| Release time           | 1/2 of load power source cycle + 1 ms max.                                        | 1/2 of load power source cycle + 1 ms max.         | 2 ms max.             |
| Output ON voltage drop | 1.6 V (RMS) max.                                                                  |                                                    | 1.5 V max.            |
| Leakage current        | 5 mA max. (at 100 VAC)<br>10 mA max. (at 200 VAC)                                 | 2.5 mA max. (at 100 VAC)<br>5 mA max. (at 200 VAC) | 5 mA max. (at 50 VDC) |
| Insulation resistance  | 100 MW min. (at 500 VDC)                                                          |                                                    |                       |
| Dielectric strength    | 2,500 VAC, 50/60 Hz for 1 min                                                     |                                                    |                       |
| Vibration resistance   | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude                                 |                                                    |                       |
| Shock resistance       | Malfunction: 1,000 m/s <sup>2</sup> (approx. 100G)                                |                                                    |                       |
| Ambient temperature    | Operating: -30% to 80°C (with no icing)<br>Storage: -30% to 100°C (with no icing) |                                                    |                       |
| Ambient humidity       | Operating: 45% to 85%                                                             |                                                    |                       |
| Weight                 | Approx. 25 g                                                                      |                                                    |                       |

## ■ Approved Standards

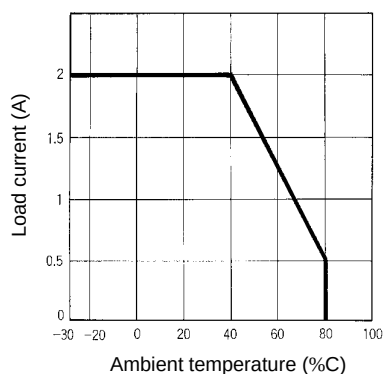
UL114 File No.E64562/CSA C22.2 (No.0, No.14) File No. LR35535

| Model              | Ratings        |
|--------------------|----------------|
| G3CN-202P(L)(1)-US | 2 A at 240 VAC |
| G3CN-203P(L)(1)-US | 3 A at 240 VAC |
| G3CN-DX02P(1)-US   | 2 A at 48 VDC  |
| G3CN-DX03P(1)-US   | 3 A at 48 VDC  |

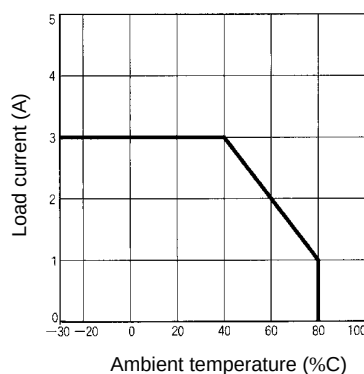
## Engineering Data

## Load Current vs. Ambient Temperature Characteristics

G3CN-202P(1)/-202PL(1)/-DX02P(1)

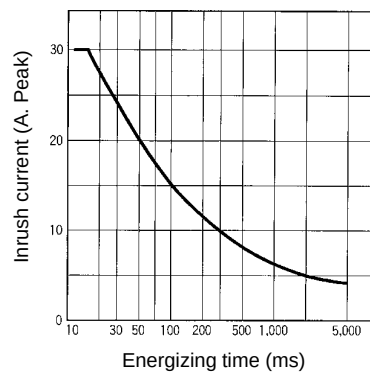
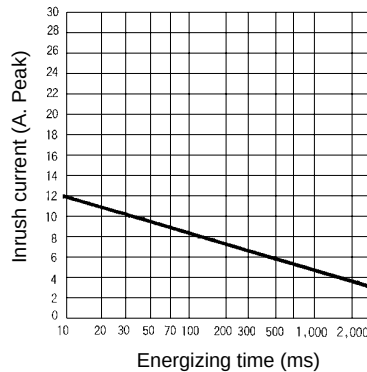
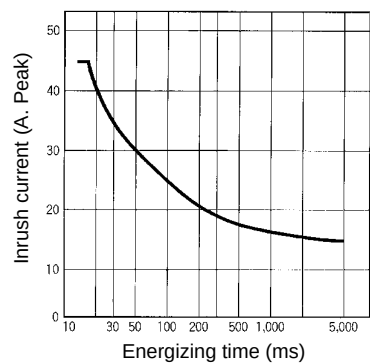
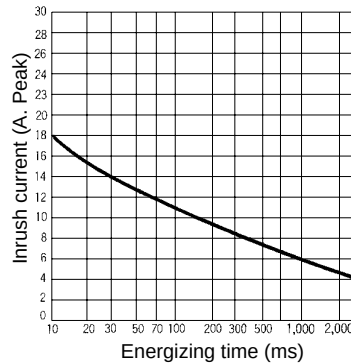


G3CN-203P(1)/-203PL(1)/-DX03P(1)



**Inrush Current Resistivity****2-A Load**

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

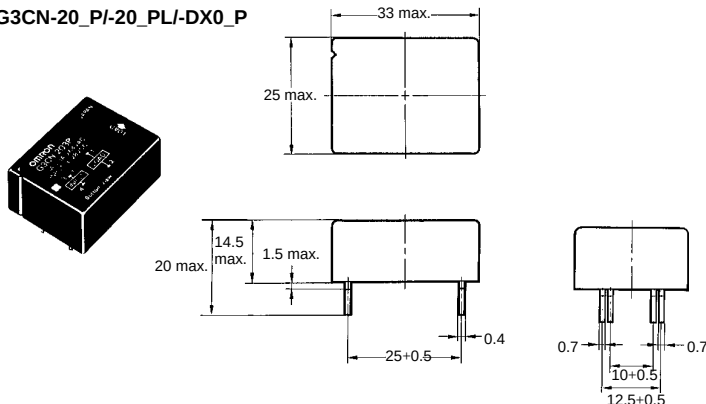
**G3CN-202P(1)/-202PL(1)****G3CN-DX02P(1)****3-A Load****G3CN-203P(1)/-203PL(1)****G3CN-DX03P(1)**

## Dimensions

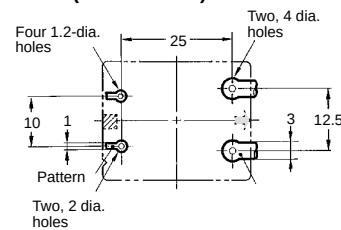
**Note:** All units are in millimeters unless otherwise indicated.

### Flat Model

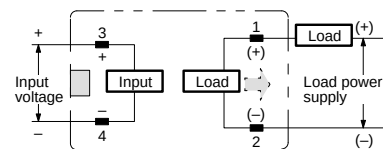
G3CN-20\_P/-20\_PL/-DX0\_P



### Terminal Arrangement/ Mounting Holes (Bottom View)



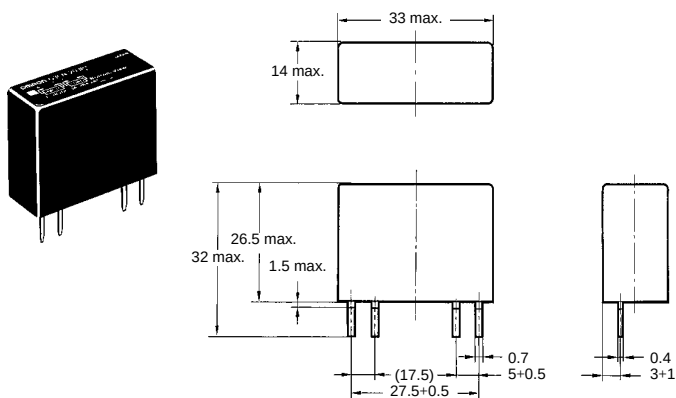
### Terminal Arrangement/ Internal Connections (Bottom View)



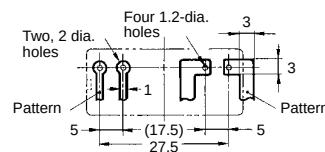
**Note:** Values in parentheses apply to the DC-load versions.

### Vertical Model

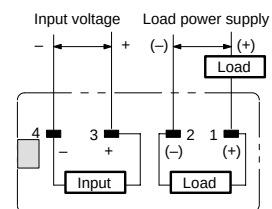
G3CN-20\_P1/-20\_PL1/-DX0\_P1



### Terminal Arrangement/ Mounting Holes (Bottom View)



### Terminal Arrangement/ Internal Connections (Bottom View)



**Note:** Values in parentheses apply to the DC-load versions.

## Precautions

Refer to pages 5 to 13 for general precautions.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.