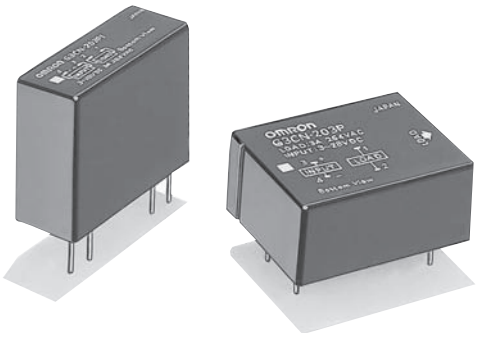
G3CN
Solid State Relays

PCB-mounting SSR for FA Equipment Requiring High Reliability



- 3 to 28 VDC input and 75 to 264 VAC output.
- Wide I/O voltage range: 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.
- Lineup includes models with UL and CSA certification (model numbers ending in "-US").

RoHS Compliant

⚠ Refer to "Solid State Relays Common Precautions".

■List of Models

Isolation	Zero cross function	Indicator	Rated output load	Rated input voltage	Model	Minimum packing unit
Photocoupler	Yes	No	2 A at 100 to 240 VAC	4 to 24 VDC	**G3CN-202P**	10 pcs
					G3CN-202P1 *1	20 pcs
			3 A at 100 to 240 VAC		**G3CN-203P**	10 pcs
					G3CN-203P1 *1	20 pcs
Phototriac	No		2 A at 100 to 240 VAC	5 VDC 12 VDC *2 24 VDC	**G3CN-202PL**	10 pcs
					G3CN-202PL1 *1	20 pcs
			3 A at 100 to 240 VAC		**G3CN-203PL**	10 pcs
					G3CN-203PL1 *1	20 pcs
Photocoupler	–		2 A at 4 to 48 VDC	4 to 24 VDC	**G3CN-DX02P**	10 pcs
					G3CN-DX02P1 *1	20 pcs
			3 A at 4 to 48 VDC		**G3CN-DX03P**	10 pcs
					G3CN-DX03P1 *1	20 pcs

*1. These are vertical types. *2 When ordering, specify the input voltage.

■Ratings

Input

Item / Model	Rated voltage	Operating voltage	Input impedance	Voltage level	
				Must operate voltage	Must release voltage
G3CN-202P(1) G3CN-203P(1)	4 to 24 VDC	3 to 28 VDC	1.5 kΩ $^{+20\%}_{-10\%}$	3 VDC max.	1 VDC min.
G3CN-202PL(1) G3CN-203PL(1)	5 VDC	4 to 6 VDC	390 Ω ±20%	4 VDC max.	
	12 VDC	9.6 to 14.4 VDC	900 Ω ±20%	9.6 VDC max.	
	24 VDC	19.2 to 28.8 VDC	2 kΩ ±20%	19.2 VDC max.	
G3CN-DX02P(1) G3CN-DX03P(1)	4 to 24 VDC	3 to 28 VDC	1.5 kΩ $^{+20\%}_{-10\%}$	3 VDC max.	

Note. The input impedance values are the maximum values of applied voltage. (measured at 28 VDC for 4 to 24 VDC models)

Output

Item / Model	Applicable load			
	Rated load voltage	Load voltage range	Load current	Inrush current
G3CN-202P(1) G3CN-202PL(1)	100 to 240 VAC	75 to 264 VAC	0.1 to 2 A *	30 A (60 Hz, 1 cycle)
G3CN-203P(1) G3CN-203PL(1)			0.1 to 3 A *	45 A (60 Hz, 1 cycle)
G3CN-DX02P(1)	4 to 48 VDC	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)

* The load current varies depending on the ambient temperature. Refer to Load Current vs. Ambient Temperature under Engineering Data.

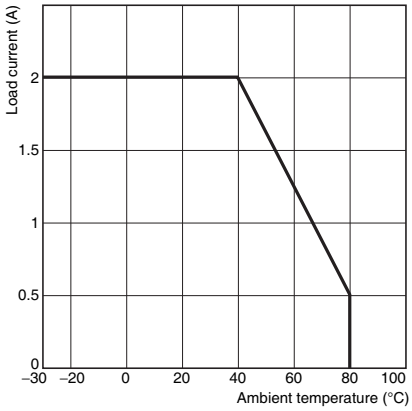
■Characteristics

Model / Item	G3CN-202P(1), G3CN-203P(1)	G3CN-202PL(1), G3CN-203PL(1)	G3CN-DX02P(1), G3CN-DX03P(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) 10 mA max. (at 200 VAC)	2.5 mA max. (at 100 VAC) 5 mA max. (at 200 VAC)	5 mA max. (at 50 VDC)
Insulation resistance	100 MΩ min. (at 500 VDC)		
Dielectric strength	2,500 VAC, 50/60 Hz for 1 min between input and output		
Vibration resistance	10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)		
Shock resistance	1,000 m/s²		
Ambient Operating temperature	–30°C to 80°C (with no icing nor condensation)		
Ambient Operating humidity	45% to 85%RH		
Storage Temperature	–30°C to 100°C (with no icing nor condensation)		
Weight	Approx. 25 g		

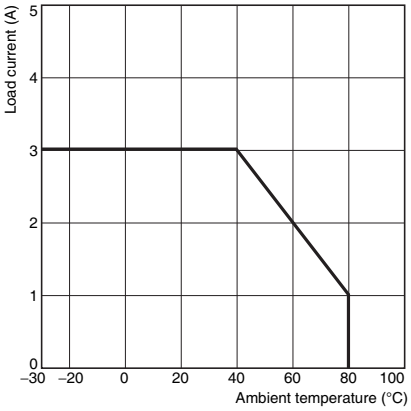
■Engineering Data

● **Load Current vs. Ambient Temperature Characteristics**

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



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

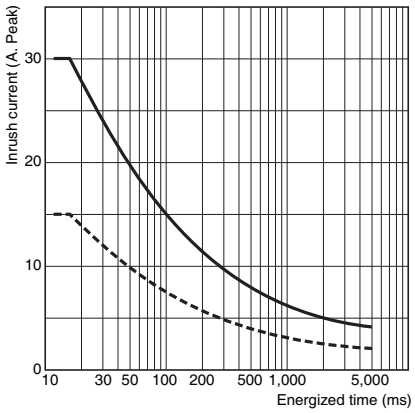


● **One Cycle Surge Current: Non-repetitive**

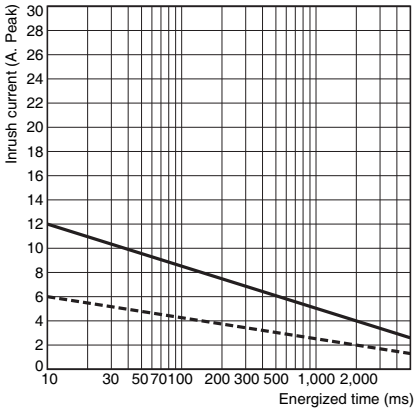
Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

2-A Load Model

G3CN-202P(1), G3CN-202PL(1)

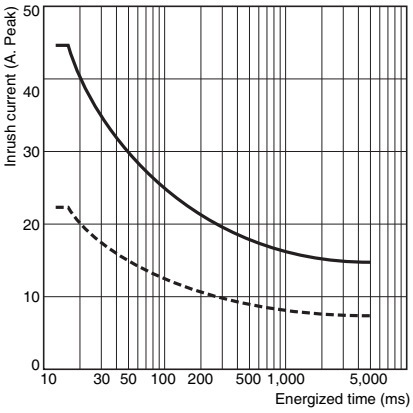


G3CN-DX02P(1)

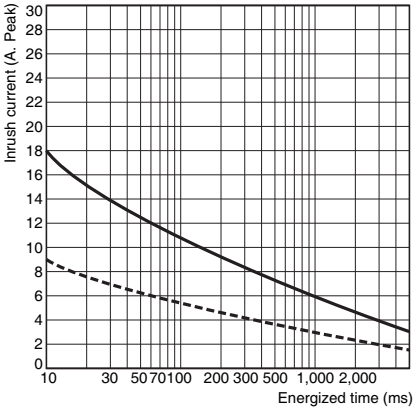


3-A Load Model

G3CN-203P(1), G3CN-203PL(1)



G3CN-DX03P(1)

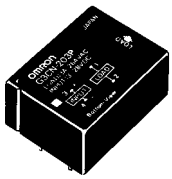


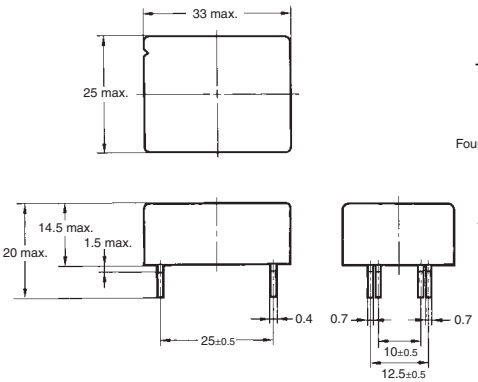
■Dimensions

(Unit: mm)

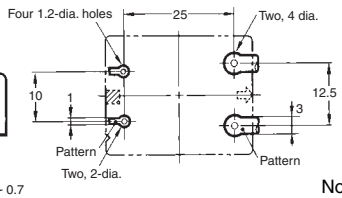
●**Flat Model**

G3CN-20□P
G3CN-20□PL
G3CN-DX0□P

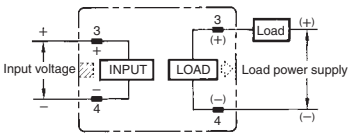




Mounting Holes
Tolerance: ±0.1 mm unless specified
(BOTTOM VIEW)



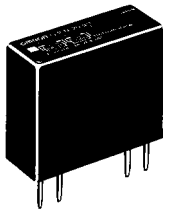
Terminal Arrangement/ Internal Connections
(BOTTOM VIEW)

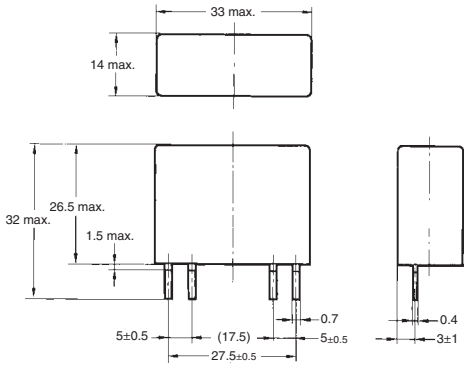


Note. The plus and minus symbols shown in the parentheses are for DC loads.

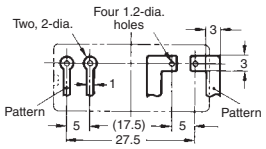
●**Vertical Model**

G3CN-20□P1
G3CN-20□PL1
G3CN-DX0□P1

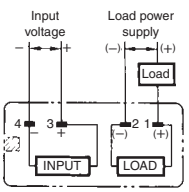




Mounting Holes
Tolerance: ±0.1 mm unless specified
(BOTTOM VIEW)



Terminal Arrangement/ Internal Connections
(BOTTOM VIEW)



Note. The plus and minus symbols shown in the parentheses are for DC loads.

■Precautions

●**Please refer to "Solid State Relays Common Precautions" for correct use.**

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

OMRON Corporation
Electronic and Mechanical Components Company **Contact: www.omron.com/ecb**

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