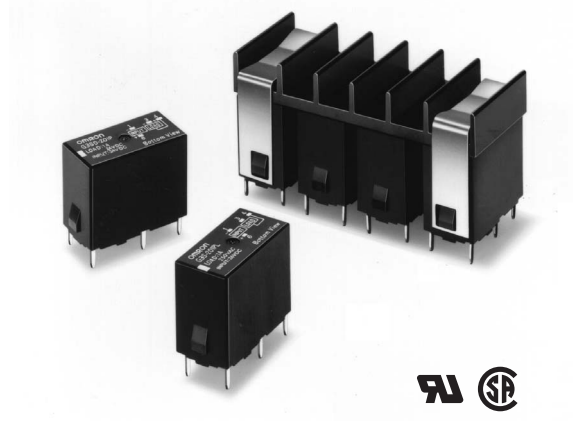


Solid State Relays G3S/G3SD

Refer to *Warranty and Application Considerations* (page 1), *Safety Precautions* (page 4), and *Technical and Safety Information* (page 6).

Ultra-small Relay Breaks up to 1 A

- Ultra-small, dual in-line package (DIP) SSR.
- Terminals compatible with G6B Electromagnetic Relay's. Mix with G6Bs as the application requires.
- Close mounting possible. In addition, heat sink dedicated to this mounting style also available.
- Both AC- and DC-load versions available.
- High isolation of 2,500 VAC between input and output freeing inputs from noise surge generated in the load.
- Built-in varistor effectively absorbs external surges. (In case of SSR for AC switching.)
- Certified by UL and CSA.



Model Number Structure

■ Model Number Legend

G3S□-□□□□-□-□
1 2 3 4 5 6 7 8

1. Basic Model Name

G3S: Solid State Relay

2. Rated Load Power Supply

Blank: AC output

D: DC output

3. Rated Load Power Supply Voltage

Z: 24 VDC

2: 200 VAC

4. Rated Load Current

01: 1 A

5. Terminal Type

P: PCB terminals

6. Zero Cross Function

Blank: DC-output model or equipped with zero cross function

L: Not equipped with zero cross function

7. Special Specifications

Blank: Standard models

PD: High rated load current

8. Certification

US: Certified by UL and CSA

Ordering Information

■ List of Models

Isolation	Zero cross function	Indicator	Rated output load	Rated input voltage	Model
Phototriac	No	No	1 A at 100 to 240 VAC (See note 1.)	5 VDC	G3S-201PL-US
				12 VDC	
				24 VDC	
			1.2 A at 100 to 240 VAC (See note 1.)	5 VDC	G3S-201PL-PD-US
				12 VDC	
				24 VDC	
Photocoupler			1 A at 4 to 24 VDC (See note 2.)	5 VDC	G3SD-Z01P-US
				12 VDC	
				24 VDC	
			1.1 A at 4 to 24 VDC (See note 2.)	5 VDC	G3SD-Z01P-PD-US
				12 VDC	
				24 VDC	

Note: 1. Product is labelled "250 VAC".
 2. Product is labelled "24 VDC".
 3. When ordering, specify the rated input voltage.

■ Accessories (Order Separately)

Heat Sink

Heat Sink	Y92B-S08N
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See *Dimensions* for details.

Connecting Socket

Connecting Socket	P6B-04P
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See *Dimensions* for details.

Specifications

■ Ratings (at an Ambient Temperature of 25°C)

Input

Rated voltage	Operating voltage	Impedance		Voltage level	
		G3S-201PL-US /201PL-PD-US	G3S-Z01P-US /Z01P-PD-US	Must operate voltage	Must release voltage
5 VDC	4 to 6 VDC	450 $\Omega \pm 20\%$	630 $\Omega \pm 20\%$	4 VDC max.	1 VDC min.
12 VDC	9.6 to 14.4 VDC	1.1 k $\Omega \pm 20\%$	1.5 k $\Omega \pm 20\%$	9.6 VDC max.	
24 VDC	19.2 to 28.8 VDC	2.2 k $\Omega \pm 20\%$	2.8 k $\Omega \pm 20\%$	19.2 VDC max.	

Note: Each models has 5-VDC, 12-VDC, and 24-VDC input versions.

Output

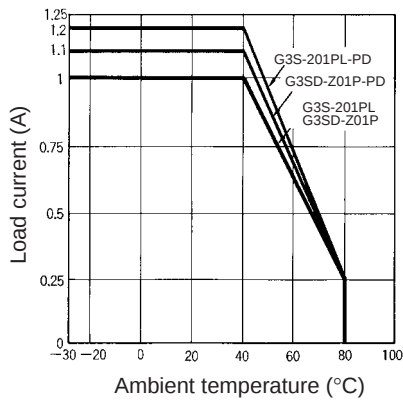
Model	Applicable load			
	Rated load voltage	Rated load voltage range	Load current	Inrush current
G3S-201PL-US	100 to 240 VAC	75 to 264 VAC	0.1 to 1 A	15 A (60 Hz, 1 cycle)
G3S-201PL-PD-US			0.1 to 1.2 A	
G3SD-Z01P-US	4 to 24 VDC	3 to 26 VDC	0.01 to 1 A	3 A (10 ms)
G3SD-Z01P-PD-US			0.01 to 1.1 A	

■ Characteristics

Item	G3S-201PL-US/201PL-PD-US	G3SD-Z01P-US/Z01P-PD-US
Operate time	1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.	1 ms max.
Output ON voltage drop	1.6 V (RMS) max.	1.5 V max.
Leakage current	2 mA max.	0.1 mA max. (at 26 VDC)
Insulation resistance	100 M Ω min. (at 500 VDC)	
Dielectric strength	2,500 VAC, 50/60 Hz for 1 min	
Vibration resistance	Malfunction: 10 to 55 to 10 Hz, 0.75-mm single amplitude	
Shock resistance	Malfunction: 1,000 m/s ²	
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)	
Ambient humidity	Operating: 45% to 85%	
Certified standards	UL508 File No. E64562/CSA C22.2 (No.0, No.14) File No. LR35535	
Weight	Approx. 13 g	

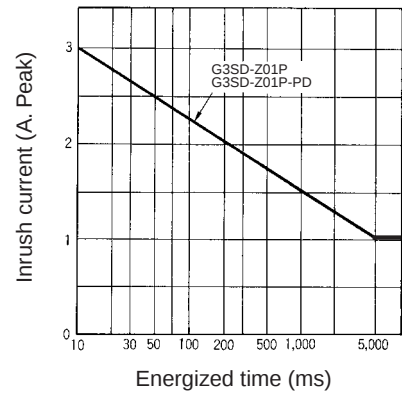
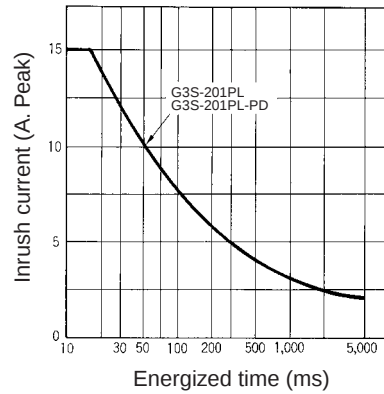
Engineering Data

Load Current vs Ambient Temperature Characteristics



One Cycle Surge Current: Non-repetitive

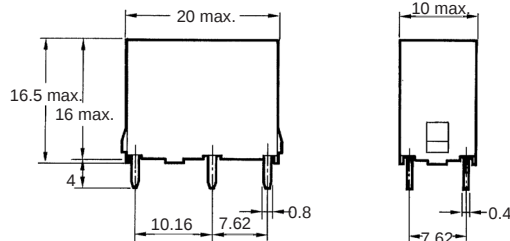
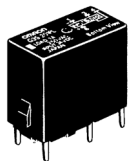
Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)



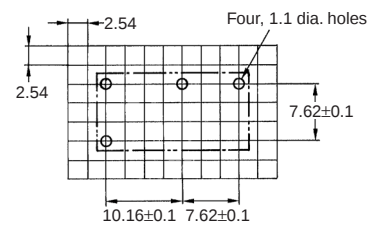
Dimensions

Note: All units are in millimeters unless otherwise indicated.

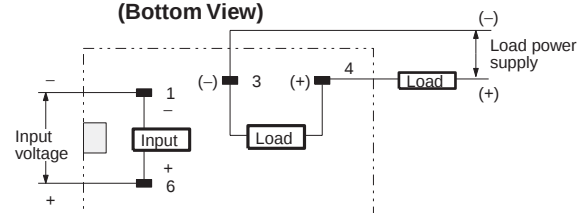
G3S/G3SD



PCB Dimensions (Bottom View)

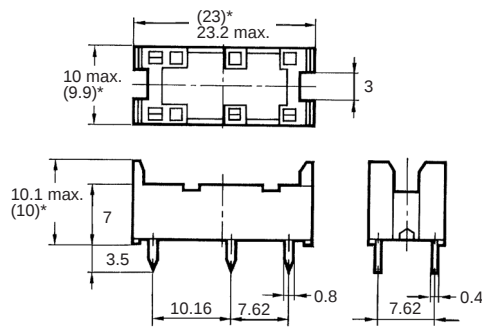
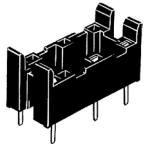


Terminal Arrangement/ Internal Connections (Bottom View)

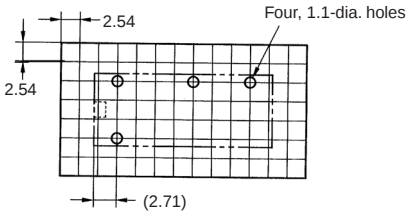


Note: Values in parentheses apply to the DC-load versions.

**Connecting Socket
P6B-04P**

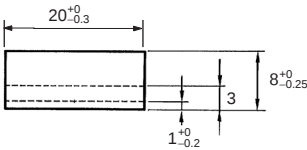
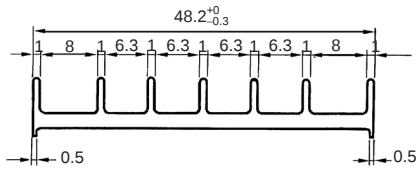
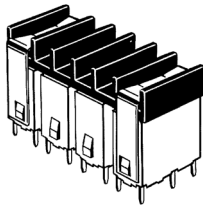


**PCB Dimensions
(Bottom View)**

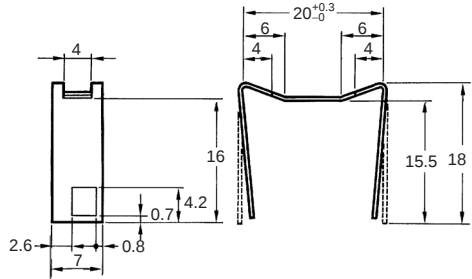


*Average value

**Heat Sink
Y92B-S08N**



Mounting Bracket



**PCB Dimensions
(Bottom View)**

