Solid State Relays G3□-VD
G3B/G3BD

Refer to *Safety Precautions* (page 4).

International Standards for G3B Series, Same Profile as MK Power Relays

- Shape-compatible with mechanical relays.
- Certified by UL, CSA, and VDE (models numbers with a suffix of "-VD").
- Plug-in type, same size as MK Power Relays.
- Operation indicator provided to confirm input.
- DC Output model available with 3 to 125-VDC load voltage range for high-voltage applications.

Model Number Structure

■ Model Number Legend

G3B□-□□□-□
1 2 3 4 5 6

1. **Basic Model Name**
   G3B: Solid State Relay
2. **Load Power Supply Type**
   Blank: Switches AC loads
   D: Switches DC loads
3. **Rated Load Power Supply Voltage**
   2: 200 V
   1: 100 V
4. **Rated Load Current**
   03: 3 A
   05: 5 A
5. **Terminal Type**
   S: Plug-in terminals
6. **Certification**
   VD: Certified by UL, CSA, and VDE

Ordering Information

■ List of Models

Isolation	Zero cross function	Indicator	Rated output load	Rated input voltage	Model
Photocoupler	Yes	Yes	5 A at 100 to 240 VAC (See note.)	5 to 24 VDC	G3B-205S-VD
	No		3 A at 5 to 110 VDC		G3BD-103S-VD

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

■ Accessories (Order Separately)

Connecting Sockets/Hold-Down Clips

Item	PF083A-E	PL-08
Connecting	Front connecting	Back connecting
Mounting method/Terminal type	DIN-rail mounted/screw terminals	Solder terminals
Hold-down clip	PYC-A1 (when DIN-rail mounted)	PLC

Specifications

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

Input

Model	Rated voltage	Operating voltage	Input current	Voltage levels	
				Must operate voltage	Must release voltage
G3B-205S-VD	5 to 24 VDC	4 to 32 VDC	15 mA max. (See note.)	4 VDC max.	1 VDC min.
G3BD-103S-VD		4 to 30 VDC	15 kΩ+20%/-10%		

Note: Constant-current input circuit.

Output

Model	Applicable load			
	Rated load voltage	Load voltage range	Load current	Inrush current
G3B-205S-VD	100 to 240 VAC	75 to 264 VAC	0.1 to 5 A	80 A, 60 Hz for 1 cycle
G3BD-103S-VD	5 to 110 VDC	3 to 125 VDC	0.1 to 3 A	12 A (10 ms)

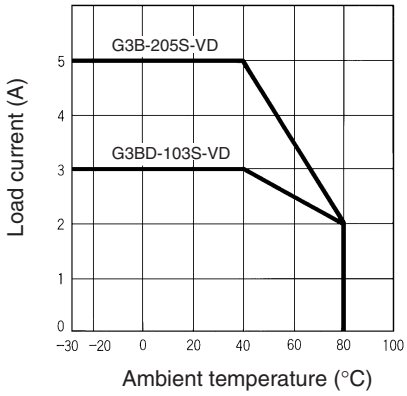
■ Characteristics

Model	G3B-205S-VD	G3BD-103S-VD
Operate time	1/2 cycle of load power source + 1 ms max.	0.5 ms max.
Release time	1/2 cycle of load power source + 1 ms max.	2.5 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)	5 mA max. (at 125 VDC)
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min	
Vibration resistance	Destruction: 10 to 55 to 10 Hz, 0.75-mm single amplitude	
Shock resistance	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	45% to 85%	
Certified standards	G3B: UL508, CSA C22.2 No. 14, EN60947-4-3 G3BD: UL508, CSA C22.2 No. 14, EN60950	
Weight	Approx. 70 g	

Engineering Data

Load Current vs. Ambient Temperature Characteristics

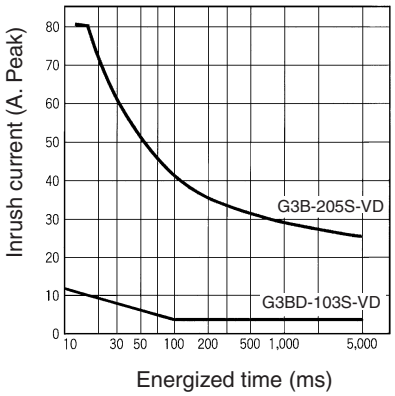
G3B-205S-VD, G3BD-103S-VD



One Cycle Surge Current: Non-repetitive

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

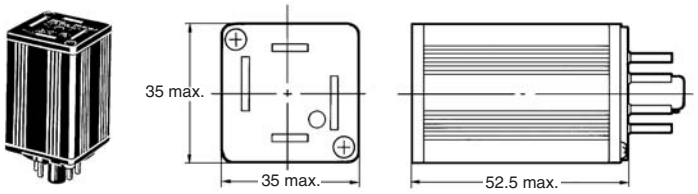
G3B-205S-VD, G3BD-103S-VD



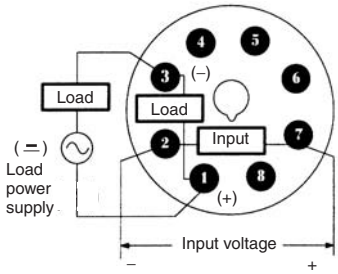
Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3B-VD
G3BD-VD

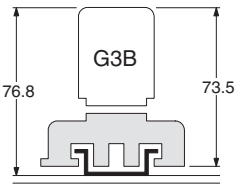


Terminal Arrangement (Bottom View)



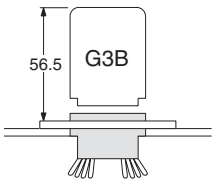
Note: The symbols shown in parentheses are for DC loads.

Mounting Height with socket
Front Connecting Socket



PF083A

Back Connecting Socket



PL08

Note: When mounting PF083A, mount the key track down.

Safety Precautions

■ Precautions for Correct Use

Please observe the following precautions to prevent failure to operate, malfunction, or undesirable effect on product performance.

The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, reduce the load current to half.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. K051-E2-05