

Solid State Relays G3M

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
 Http://www.100y.com.tw

Zero Cross Models Added to Compact, Low-cost G3M Series

- 2, 3 and 5A single in-line package SSR
- Thin design for high-density PCB applications.
- DC input-AC output for up to a 5-A load.
- Certified by UL, CSA, and VDE.



Ordering Information

To order: Select the part number and add the desired input voltage rating. (e.g., G3M-202P-US DC5)

Isolation	Input terminal pitch	Zero cross function	Indicator	Rated output load (Applicable output load)	Rated input voltage	Model			
Phototriac	7.62 mm	Yes	No	2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC	G3M-202P-US			
					12 VDC				
					24 VDC				
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203P			
					12 VDC				
					24 VDC				
		5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)		5 VDC	G3M-205P				
				12 VDC					
				24 VDC					
		No		7.62 mm	No	No	2 A at 100 to 120 VAC (2 A at 75 to 132 VAC)	5 VDC	G3M-102PL-US
								12 VDC	
								24 VDC	
2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC		G3M-202PL-US						
	12 VDC								
	24 VDC								
3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203PL							
	12 VDC								
	24 VDC								
5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5 VDC	G3M-205PL							
	12 VDC								
	24 VDC								

(This table continues on the next page)

- Note:**
1. All models have UL and CSA approvals.
 2. TÜV Marking is available with “-UTU” in place of “-US” on the part number
 3. G3M-205P(L)-VD is approved by UL, CSA and VDE

Ordering information continued

Isolation	Input terminal pitch	Zero cross function	Indicator	Rated output load (Applicable output load)	Rated input voltage	Model
Phototriac	5.08 mm	Yes	No	2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC	G3M-202P-US-4
					12 VDC	
					24 VDC	
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203P-4
					12 VDC	
					24 VDC	
		5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)		5 VDC	G3M-205P-4	
				12 VDC		
				24 VDC		
		No		2 A at 100 to 120 VAC (2 A at 75 to 132 VAC)	5 VDC	G3M-102PL-US-4
					12 VDC	
					24 VDC	
2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC		G3M-202PL-US-4			
	12 VDC					
	24 VDC					
3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203PL-4				
	12 VDC					
	24 VDC					
5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5 VDC	G3M-205PL-4				
	12 VDC					
	24 VDC					

- Note:** 1. All models have UL and CSA approvals.
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Specifications

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

Input

Rated voltage	Operating voltage	Impedance	Voltage levels	
			Must operate voltage	Must release voltage
5 VDC	4 to 6 VDC	300 Ω ±20%	4 VDC max.	1 VDC min.
12 VDC	9.6 to 14.4 VDC	800 Ω ±20%	9.6 VDC max.	
24 VDC	19.2 to 28.8 VDC	1.6 kΩ ±20%	19.2 VDC max.	

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

Output

Model	Rated voltage	Applicable load		
		Load voltage range	Load current	Inrush current
G3M-102PL-US(-4)	100 to 120 VAC	75 to 132 VAC	0.1 to 2 A	30 A (60 Hz, 1 cycle)
G3M-202P(L)-US(-4)	100 to 240 VAC	75 to 264 VAC		
G3M-203P(L)-(-4)			0.1 to 3 A	45 A (60 Hz, 1 cycle)
G3M-205P(L)-(-4)			0.1 to 5 A	

■ Characteristics

Item	G3M-102PL-US(-4)	G3M-202P(L)-US(-4)	G3M-203P(L)(-4)	G3M-205P(L)(-4)
Operate time	1 ms max. (1/2 of load power source cycle + 1 ms max. for G3M-202P, G3M-203P, G3M-205P)			
Release time	1/2 of load power source cycle + 1 ms max.			
Output ON voltage drop	1.6 V (RMS) max.			
Leakage current	2 mA max. (at 100 VAC)	2 mA max. (at 100 VAC) 5 mA max. (at 200 VAC)	1.5 mA (at 200 VAC)	
Insulation resistance	1,000 MΩ min. (at 500 VDC)			
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min		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 ² (approx. 100G)			
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%			
Weight	Approx. 15 g			Approx. 25 g

■ Approvals

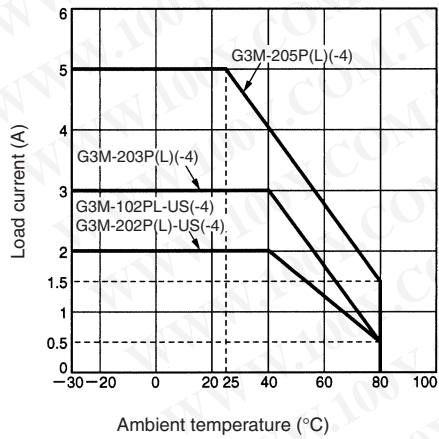
UL Recognized (File No. E64562) / CSA Certified (File No. LR35535) - - Ambient Temp. = 40°C

Input Voltage	SSR Type	Load Rating
5, 12, 24 VDC	With Suffixes 102 and US or UTU	2 A, 125 VAC, Resistive 250 W, 125 VAC Tungsten 2 A FLA / 12 A LRA, 125 VAC
	With Suffixes 202 and US	2 A, 250 VAC, Resistive 500 W, 250 VAC Tungsten 2 A FLA / 12 A LRA, 250 VAC
	With Suffixes 202 and UTU	2 A, 250 VAC, Resistive 250 W, 250 VAC Tungsten 1 A FLA / 6 A LRA, 250 VAC
	With Suffixes 203 and US or UTU	3 A, 250 VAC, Resistive 750 W, 250 VAC Tungsten 1.5 A FLA / 9 A LRA, 250 VAC
	With Suffix 205	5 A, 250 VAC, Resistive 1,250 W, 250 VAC Tungsten 2.5 A FLA / 15 A LRA, 250 VAC

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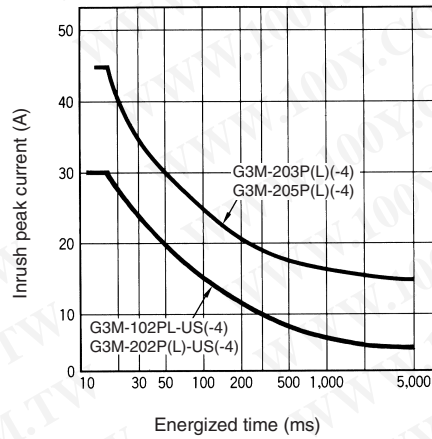
Engineering Data

Load Current vs. Ambient Temperature



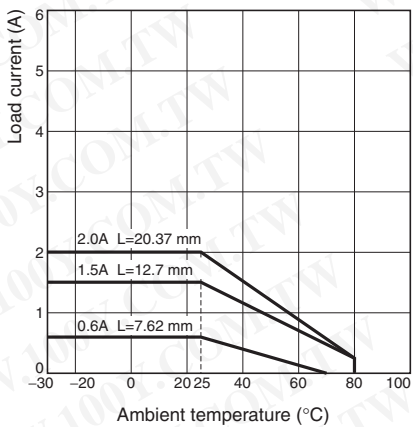
Inrush Current Immunity

Non-repetitive
Reduce the current to 1/2 or less if the G3M is in repetitive operation.

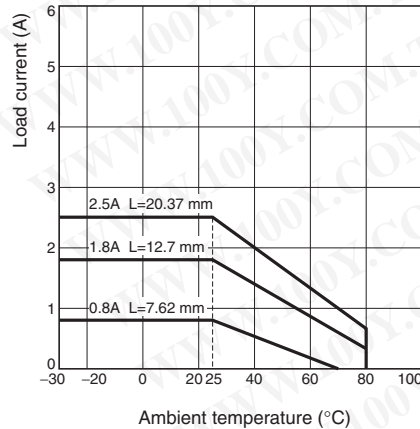


Load Current vs. Ambient Temperature (Close Mounting) G3M-205 Series (5-A Load)

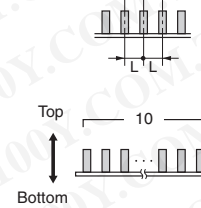
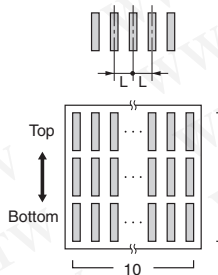
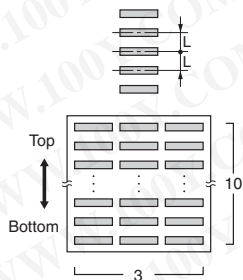
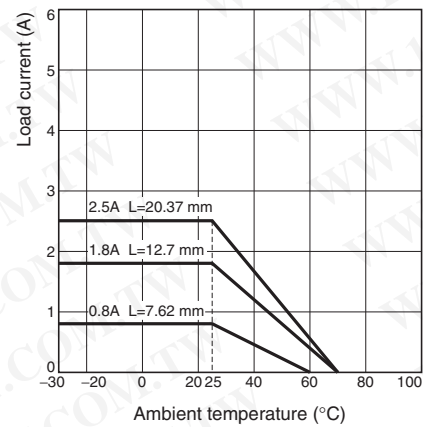
X direction



Y direction



Z direction



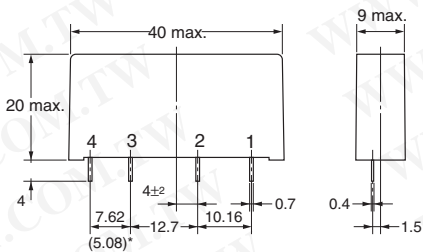
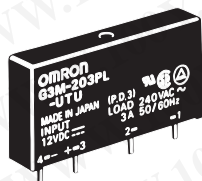
- Thirty Relays are soldered to the PCB at each given spacing.
- Continuous power.

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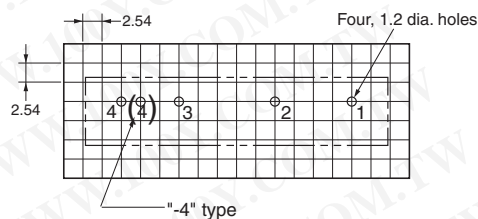
Dimensions

Note: All units are in millimeters unless otherwise indicated.

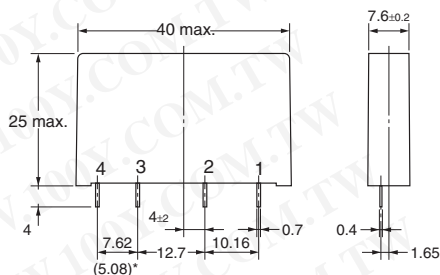
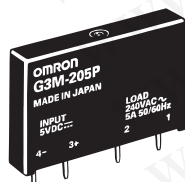
G3M-102PL-US(-4), G3M-202P(L)-4
G3M-203P(L)-4



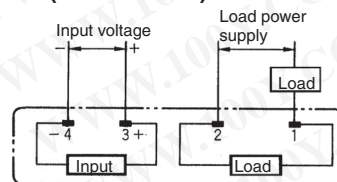
PCB Dimensions
(Bottom View)



G3M-205P(L)-4



Terminal Arrangement
(Bottom View)



*Input terminal pitch for models ending in "-4" is 5.08 mm.

Precautions

Protective Element

No overvoltage absorption element is built in. Therefore, if the G3M is connected to an inductive load, be sure to connect the overvoltage absorption element.

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Omron Electronic Components, LLC

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 - Buyer:** The buyer of Products, including any end user in section III through VI
 - Products:** Products and/or services of Seller
 - Including:** Including without limitation
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 - Delivery and shipping dates are estimates only; and
 - Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims:** Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier or any claim related to pricing or other charges must be presented in detail in writing to Seller within 30 days of receipt of shipment.

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- Use in consumer Products or any use in significant quantities.
 - Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
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- Warranty:** Seller's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT ALL OTHER WARRANTIES, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS.
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- Errors And Omissions:** The information on Seller's website or in other documentation has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.
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 - (iii) Use in consumer products or any use in significant quantities.
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NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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