

# Solid State Relays G3M

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

- 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-203PL 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	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			
	5.08 mm	Yes		No	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			
5.08 mm	Yes	No	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					
5.08 mm	No	No	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.
  2. TÜV Marking is available for 3 amp versions with reinforced insulation by inserting “-UTU” in place of “-US” in the part number  
Example: G3M-203P-UTU-1-4 DC12
  3. G3M-205P(L)-VD-1, with reinforced insulation, is approved by UL, CSA and VDE

# 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-203P(L)(-4)	100 to 240 VAC	75 to 264 VAC	0.1 to 3 A	45 A (60 Hz, 1 cycle)
G3M-205P(L)(-4)			0.1 to 5 A	

## ■ Characteristics

Item	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-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	1.5 mA (at 200 VAC)	
Insulation resistance	1,000 MΩ 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°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 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

# 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.

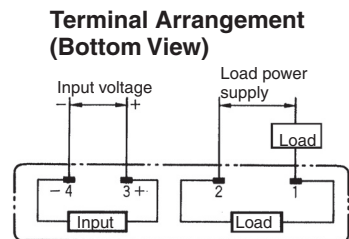
# Dimensions

Note: All units are in millimeters unless otherwise indicated.

## G3M-203P(L)-4



## G3M-205P(L)-4



\*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.



All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at [http://www.components.omron.com/components/web/webfiles.nsf/sales\\_terms.html](http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html)

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

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

---

**OMRON**<sup>®</sup>

**OMRON ELECTRONIC  
COMPONENTS LLC**

55 E. Commerce Drive, Suite B  
Schaumburg, IL 60173

**847-882-2288**

**OMRON ON-LINE**

Global - <http://www.omron.com>

USA - <http://www.components.omron.com>

Cat. No. X301-E-1b

09/11

Specifications subject to change without notice

Printed in USA

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)