

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 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 |

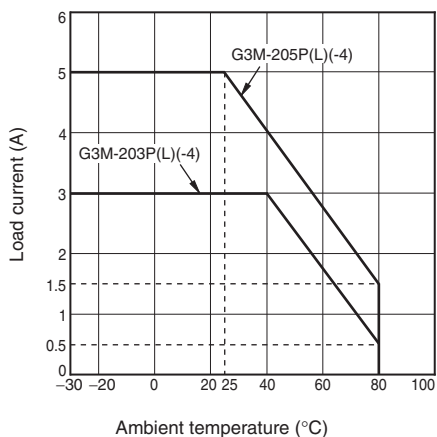
■ Approvals

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 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



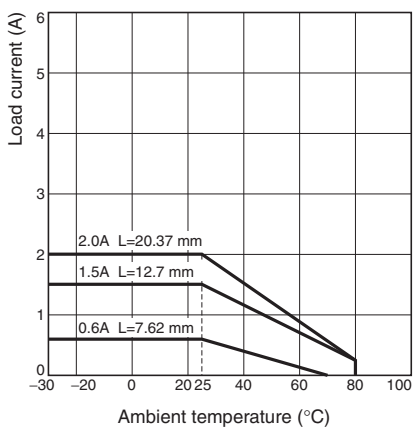
Inrush Current Immunity

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

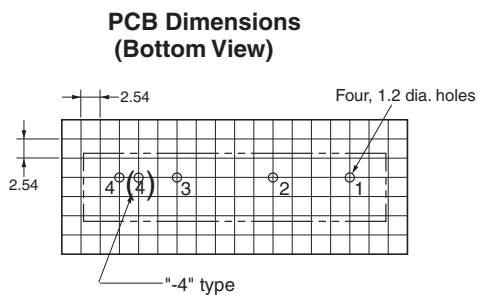


- Thirty Relays are soldered to the PCB at each given spacing.
- Continuous power.

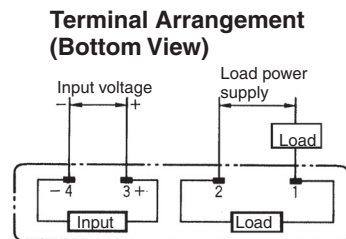
Dimensions

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

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[®]

**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 «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.