

# Solid State Relay

# G3MB

Low cost Subminiature PCB mounting 2 amp  
Single in-line package (SIP) SSR



- Bottom is approximately 3 times smaller than G3M
- Low cost “SIP” package switches up to 2A loads
- Built in Snubber circuit and input resistor as option
- Two footprints available for design flexibility
- The G3MB-202PEG-4-DC20MA crosses directly to the Motorola MOC2A-60 series power triac



## Ordering Information

To Order: Specify input voltage at end of part number. Example: G3MB-202P-DC24

Isolation	Output terminal pitch	Zero cross	Input resistor	Built-in snubber circuit	Rated output load	Rated input voltage	Part number
Phototriac	7.62 mm	Yes	Yes	Yes	2 A at 100 to 240 VAC	5 VDC	<b>G3MB-202P</b>
						12 VDC	
						24 VDC	
		No			2 A at 100 to 240 VAC	5 VDC	<b>G3MB-202PL</b>
						12 VDC	
						24 VDC	
	5.08 mm	Yes	No	No	2 A at 100 to 240 VAC	5 VDC	<b>G3MB-202P-4</b>
						12 VDC	
						24 VDC	
		No		2 A at 100 to 240 VAC	5 VDC	<b>G3MB-202PL-4</b>	
					12 VDC		
					24 VDC		
Yes	2 A at 100 to 240 VAC	N/A *(See Note)	<b>G3MB-202PEG-4-DC20MA</b>				
No		N/A *(See Note)		<b>G3MB-202PLEG-4-DC20MA</b>			

- Note: 1. For versions without input voltage specified, a current limiting resistor must be placed in series with the input. See LED drive specifications and recommendations below.  
2. TUV versions available. Contact your local Omron representative.

# Specifications

## ■ INPUT RATING

Models with input resistor

Rated voltage	Operating range	Input impedance
5 VDC	4 to 6 VDC	440 Ω ±20%
12 VDC	9.60 to 14.40 VDC	1k Ω, ±20%
24 VDC	19.20 to 28.80 VDC	2.20k Ω, ±20%

## ■ OUTPUT RATING

Model	Rated load voltage	Load voltage range	Load current	Surge current
G3MB-202	100 to 240 VAC	75 to 264 VAC	0.10 to 2 A	30 A (60 Hz, 1 cycle)

## ■ LED DRIVE DATA

Models without input resistor

LED forward current	50 mA max.
Repetitive peak LED forward current	1 A max.
LED reverse voltage	5 V max.

## ■ RECOMMENDED LED OPERATING CONDITIONS

Models without input resistor

	Min.	Standard	Max.
LED forward current	5 mA	10 mA	20 mA
Must drop voltage	0	—	1 V

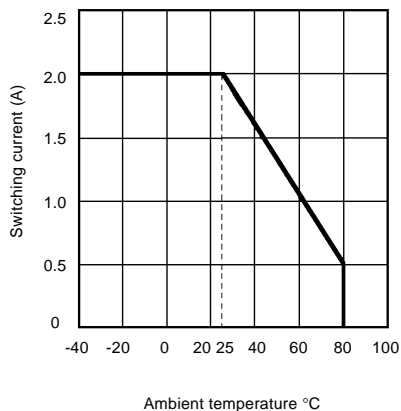
## ■ CHARACTERISTICS

Type	G3MB-202P G3MB-202PEG	G3MB-202PL G3MB-202PLEG	
Operate time	1/2 of load power source cycle + 1 ms max.	1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.		
Output ON voltage drop	1.60 V (RMS) max.		
Leakage current	1 mA max. at 100 VAC, 1.50 mA at 200 VAC		
Non-repetitive peak surge	30 A		
Output	PIV (V <sub>DRM</sub> )	600 V	
	di/dt	40 A/μs	
	dv/dt	100 V/μs	
	I <sup>2</sup> t	4 A <sup>2</sup> s	
Junction temperature (T <sub>j</sub> )	125°C (257°F) max.		
Insulation resistance	1,000 MΩ min. at 500 VDC		
Dielectric strength	2500 VAC, 50/60 Hz for 1 minute; 3750 VAC max., 1 second		
Vibration	Malfunction	10 to 55 Hz, 0.75 mm (0.03 in) double amplitude, approx. 5 G	
Shock	Malfunction	Approx. 100 G	
Ambient temperature	Operating	-30° to 80°C (-22° to 176°F) with no icing	
	Storage	-30° to 100°C (-22° to 212°F) with no icing	
Humidity	Operating	45% to 85% RH	
Weight	Approx. 5 g (0.18 oz)		

Note: Data shown are of initial value.

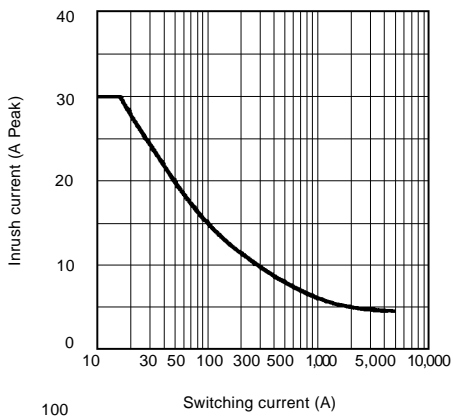
### CHARACTERISTIC DATA

Load current vs. ambient temperature characteristics



Inrush current resistivity

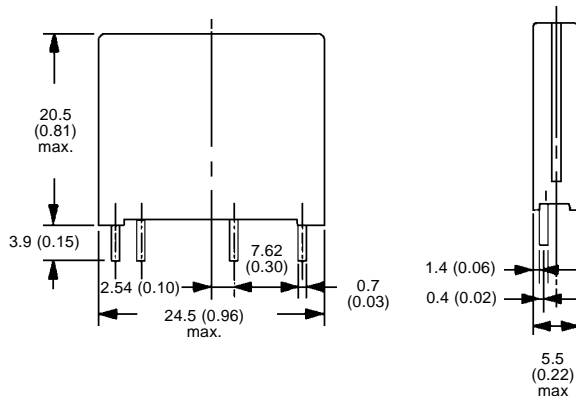
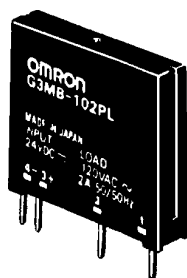
Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)



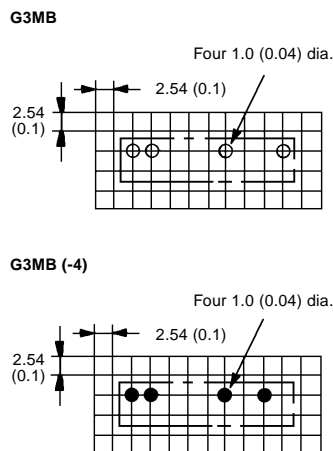
## Dimensions

Unit: mm (inch)

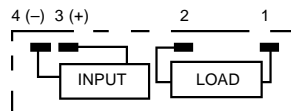
### RELAYS



PCB Dimensions (Bottom view)



Terminal Arrangement/ Internal Connections (Bottom view)



**■ APPROVALS**

**UL (File No. E64562)**

SSR Type	Input voltage	Load type	Load ratings
G3MB-102P	5 to 24 VDC	General purpose	2 A, 120 VAC
		Tungsten	1 A, 120 VAC
		Motor	1.60 FLA/9.60 LRA, 120 VAC
G3MB-202P G3MB-202PL G3MB-202PEG G3MB-202PLEG	5 to 24 VDC	General purpose	2 A, 240 VAC
		Tungsten	1 A, 240 VAC
		Motor	1.60 FLA/9.60 LRA, 240 VAC

**CSA (File No. LR35535-274)**

SSR Type	Input voltage	Load type	Load ratings
G3MB-102P	5 to 24 VDC	General purpose	2 A, 120 VAC
		Tungsten	1 A, 120 VAC
		Motor	1.60 FLA/8.60 LRA, 120 VAC
G3MB-202P G3MB-202PL	5 to 24 VDC	General purpose	2 A, 240 VAC
		Tungsten	1 A, 240 VAC
		Motor	1.60 FLA/8.60 LRA, 240 VAC

- Note: 1. The rated values approved by each of the safety standards (e.g., UL and CSA) may be different from the performance characteristics individually defined in this catalog.  
 2. In the interest of product improvement, specifications are subject to change.

## Precautions

See General Information Section near the front of this catalog for Solid State Precautions.

**NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

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Specifications subject to change without notice.

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