

A Wide Range of Models with 5- to 40-A Output Currents and Up to 480-VAC/200-VDC Output Voltages

- All models feature the same compact dimensions to provide a uniform mounting pitch
- Built-in MOV effectively absorbs external surges
- Operation indicator (red LED) enables monitoring operation
- Protective cover for greater safety
- Standard models approved by UL/CSA
- AC and DC input versions available



Ordering Information

To Order: Select the part number and add the desired rated input voltage, (e.g., G3NA-240B-100 to 120 VAC).

| Isolation | Zero cross function | Indicator | Rated output load (Applicable output load) | Rated input voltage | Part number |
|--------------|---------------------|-----------|---|---------------------|-------------------|
| Phototriac | Yes | Yes | 5 A at 24 to 240 VAC* (19 to 264 VAC) | 5 to 24 VDC | G3NA-205B |
| Photocoupler | | | | 100 to 120 VAC | |
| | 200 to 240 VAC | | | | |
| Photocoupler | Yes | Yes | 10 A at 24 to 240 VAC* (19 to 264 VAC) | 5 to 24 VDC | G3NA-210B |
| | | | | 100 to 120 VAC | |
| | | | | 200 to 240 VAC | |
| Photocoupler | Yes | Yes | 10 A at 200 to 480 VAC* (180 to 528 VAC) | 5 to 24 VDC | G3NA-410B |
| | — | | | 100 to 240 VAC | |
| Phototriac | Yes | — | 10 A at 5 to 200 VDC* (4 to 220 VDC) | 5 to 24 VDC | G3NA-D210B |
| | | | | 100 to 240 VAC | |
| Phototriac | Yes | — | 20 A at 24 to 240 VAC* (19 to 264 VAC) | 5 to 24 VDC | G3NA-220B |
| | | | | 100 to 120 VAC | |
| | | | | 200 to 240 VAC | |
| Photocoupler | Yes | Yes | 20 A at 200 to 480 VAC* (180 to 528 VAC) | 5 to 24 VDC | G3NA-420B |
| | | | | 100 to 240 VAC | |
| Photocoupler | Yes | Yes | 25 A at 24 to 240 VAC* (19 to 264 VAC) | 5 to 24 VDC | G3NA-225B |
| | | | | 100 to 120 VAC | |
| | | | | 200 to 240 VAC | |
| Photocoupler | Yes | Yes | 25 A at 200 to 480 VAC* (180 to 528 VAC) | 5 to 24 VDC | G3NA-425B |
| | | | | 100 to 240 VAC | |
| Phototriac | Yes | Yes | 40 A at 24 to 240 VAC* (19 to 264 VAC) | 5 to 24 VDC | G3NA-240B |
| | | | | 100 to 120 VAC | |
| | | | | 200 to 240 VAC | |
| Photocoupler | Yes | Yes | 40 A at 200 to 480 VAC* (180 to 528 VAC) | 5 to 24 VDC | G3NA-440B |
| | | | | 100 to 240 VAC | |

* Loss time increases under 75 VAC.

NOTE: When ordering a TÜV-approved model, add "-UTU" to the model number as shown below:
Example: G3NA-210B-UTU

■ ACCESSORIES

Heat Sinks

| Types | Applicable solid-state relays | Part number |
|----------------|---|-------------------|
| Standard mount | G3NA-205B, G3NA-210B, G3NA-D210B, G3NA-220B, G3NA-410B, G3NA-420B | Y92B-A100 |
| | G3NA-225B, G3NA-240B, G3NA-425B, G3NA-440B | Y92B-A150N |
| | G3NA-440B | Y92B-A250 |
| Track mount | G3NA-205B, G3NA-210B, G3NA-D210B, G3NA-410B | Y92B-N50 |
| | G3NA-220B, G3NA-420B | Y92B-N100 |
| | G3NA-225B, G3NA-240B, G3NA-425B, G3NA-440B | Y92B-N150 |

Mounting Track and Accessories

| Description | Part number |
|--|-----------------|
| Mounting bracket for G3NA-240B. Changes pitch to 56 mm (2.21 in.) from 47.5 mm (1.73 in.), the same pitch as G3N-240B. | R99-11 |
| DIN Rail Track, 50 cm (1.64 feet) length; use with Y92B-N□□□ heat sinks | PFP-50M |
| DIN Rail Track, 1 m (3.28 feet) length; use with Y92B-N□□□ heat sinks | PFP-100M |
| Spacer | PFP-S |
| End cap | PFP-M |

Specifications

■ INPUT RATINGS

(Ambient temperature: 25°C [77°F])

| Type | Rated voltage | Operating voltage range | Impedance | Voltage Level | |
|------------|----------------|-------------------------|------------------------|---------------------------|--------------------------|
| | | | | Must operate voltage | Must release voltage |
| G3NA-2□□B | 5 to 24 VDC | 4 to 32 VDC | 7 mA max. (see note 2) | 4 VDC max. | 1 VDC min. |
| | 100 to 120 VAC | 75 to 132 VAC | 36 kΩ ±20% | 75 VAC, max. (see note 3) | 20 VAC min. (see note 3) |
| | 200 to 240 VAC | 150 to 264 VAC | 72 kΩ ±20% | 150 VAC max. (see note 3) | 40 VAC min. (see note 3) |
| G3NA-4□□B | 5 to 24 VDC | 4 to 32 VDC | 5 mA max. (see note 2) | 4 VDC max. | 1 VDC min. |
| | 100 to 240 VAC | 75 to 132 VAC | 72 kΩ ±20% | 75 VAC max. | 20 VAC min. |
| G3NA-D210B | 5 to 24 VDC | 4 to 32 VDC | 5 mA max. (see note 2) | 4 VDC max. | 1 VDC min. |
| | 100 to 240 VAC | 75 to 132 VAC | 72 kΩ ±20% | 75 VAC max. | 20 VAC min. |

Note: 1. The input impedance is measured at the maximum value of the rated supply voltage (for example, with the model rated at 100 to 120 VAC, the input impedance is measured at 120 VAC).

2. With constant current input circuit system.
3. Refer to the "Characteristic Data" for further details.

■ OUTPUT RATINGS

| Type | Applicable load | | | | |
|------------|--------------------|--------------------|-----------------|-------------------|------------------------|
| | Rated load voltage | Load voltage range | Load current | | Surge current |
| | | | With heat sink* | Without heat sink | |
| G3NA-205B | 24 to 240 VAC | 19 to 264 VAC | 0.1 to 5 A | 0.1 to 3 A | 60 A (60 Hz, 1 cycle) |
| G3NA-210B | 24 to 240 VAC | 19 to 264 VAC | 0.1 to 10 A | 0.1 to 4 A | 150 A (60 Hz, 1 cycle) |
| G3NA-410B | 200 to 480 VAC | 180 to 528 VAC | 0.2 to 10 A | 0.2 to 4 A | 150 A (60 Hz, 1 cycle) |
| G3NA-220B | 24 to 240 VAC | 19 to 264 VAC | 0.1 to 20 A | 0.1 to 4 A | 220 A (60 Hz, 1 cycle) |
| G3NA-420B | 200 to 480 VAC | 180 to 528 VAC | 0.2 to 20 A | 0.2 to 4 A | 220 A (60 Hz, 1 cycle) |
| G3NA-225B | 24 to 240 VAC | 19 to 264 VAC | 0.1 to 25 A | 0.1 to 4 A | 220 A (60 Hz, 1 cycle) |
| G3NA-425B | 200 to 480 VAC | 180 to 528 VAC | 0.1 to 25 A | 0.1 to 4 A | 220 A (60 Hz, 1 cycle) |
| G3NA-240B | 24 to 240 VAC | 19 to 264 VAC | 0.1 to 40 A | 0.1 to 6 A | 440 A (60 Hz, 1 cycle) |
| G3NA-440B | 200 to 480 VAC | 180 to 528 VAC | 0.2 to 40 A | 0.2 to 6 A | 440 A (60 Hz, 1 cycle) |
| G3NA-D210B | 5 to 200 VDC | 4 to 220 VDC | 0.1 to 10 A | 0.1 to 4 A | 20 A (10 ms) |

*When the appropriate size OMRON heat sink is used.

■ CHARACTERISTICS

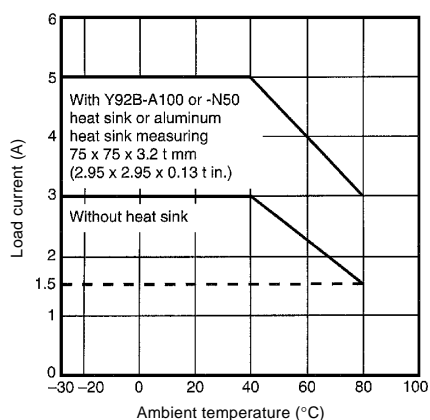
| Type | | G3NA-205B, -210B, -220B, -225B | G3NA-240B | G3NA-410B, -420B, -425B, -440B | G3NA-D210B |
|------------------------|-------------|--|------------------------|--------------------------------|------------------------|
| Operate time | DC input | 1/2 of load power source cycle + 1 ms max. | | | 1 ms max. |
| | AC input | 1 1/2 of load power source cycle + 1 ms max. | | | 30 ms max. |
| Release time | DC input | 1/2 of load power source cycle + 1 ms max. | | | 5 ms max. |
| | AC input | 1 1/2 of load power source cycle + 1 ms max. | | | 30 ms max. |
| Output ON voltage drop | | 1.6 V (RMS) max. | 1.6 V (RMS) max. | 1.8 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 200 VDC |
| | | 10 mA max. at 200 VAC | | 20 mA max. at 400 VAC | |
| Insulation resistance | | 100 MΩ min at 500 VDC | | | |
| Dielectric strength | | 2,500 VAC, 50/60 Hz for 1 minute | | | |
| Vibration | Malfunction | 10 to 55 Hz, 1.5 mm double amplitude | | | |
| Shock | Malfunction | 1,000 m/s ² (approx. 100G) | | | |
| 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 | | 45% to 85% RH | | | |
| Weight | | Approx. 60 g (2.1 oz.) | Approx. 70 g (2.5 oz.) | Approx. 80 g (2.8 oz.) | Approx. 70 g (2.5 oz.) |

Note: Data shown are of initial value.

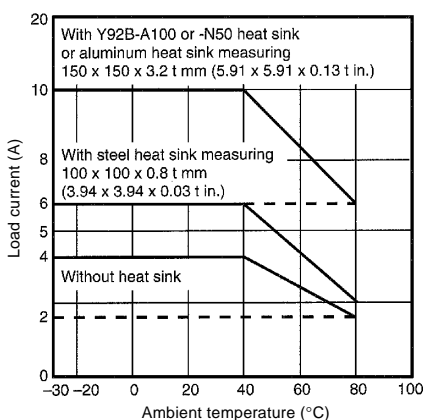
■ CHARACTERISTIC DATA

Load Current vs. Ambient Temperature Characteristics

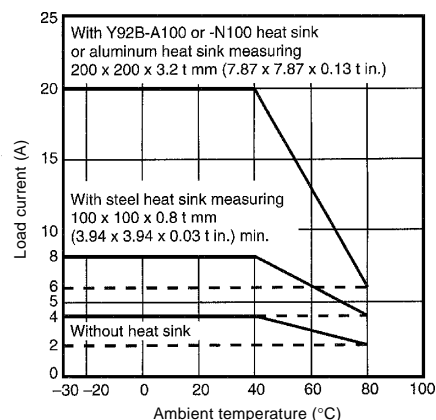
G3NA-205B



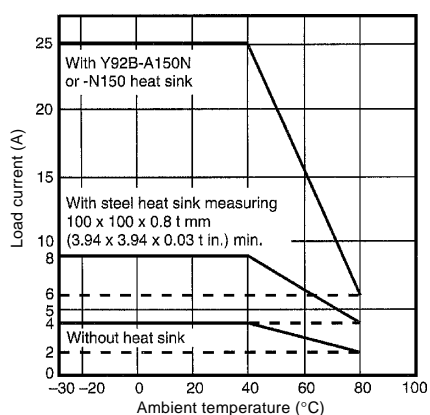
G3NA-210B
G3NA-410B



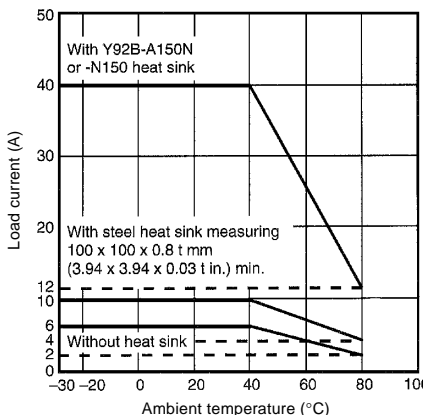
G3NA-220B
G3NA-420B



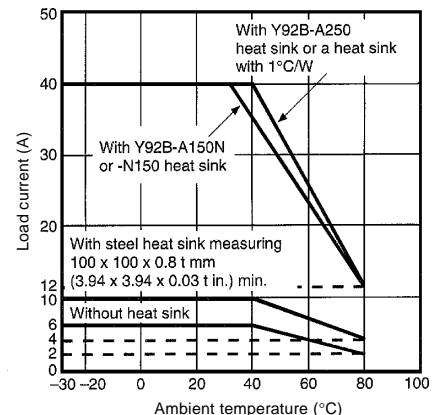
G3NA-225B
G3NA-425B



G3NA-240B



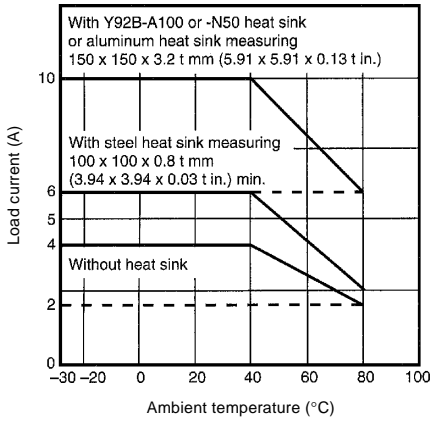
G3NA-440B



■ CHARACTERISTIC DATA (continued)

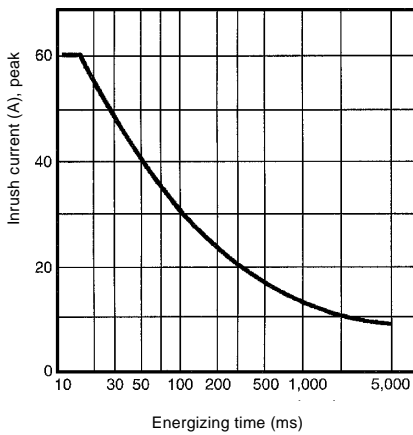
Load Current vs. Ambient Temperature Characteristics

G3NA-D210B

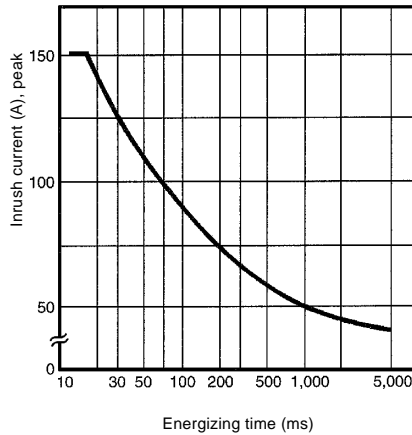


Surge Current Resistivity

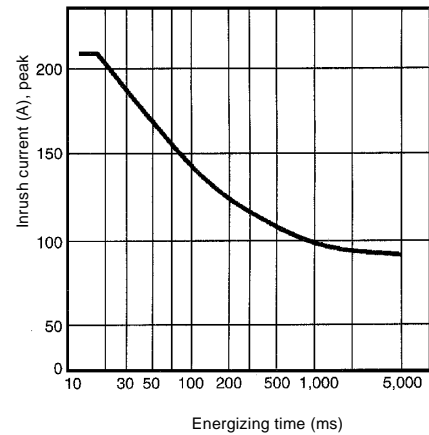
G3NA-205B



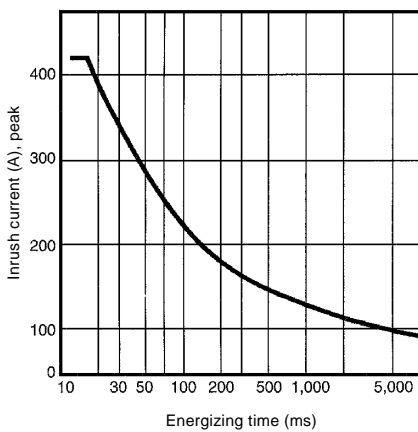
G3NA-210B
G3NA-410B



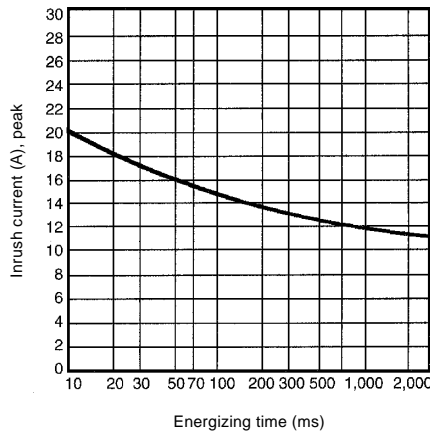
G3NA-220B, G3NA-225B,
G3NA-420B, G3NA-425B



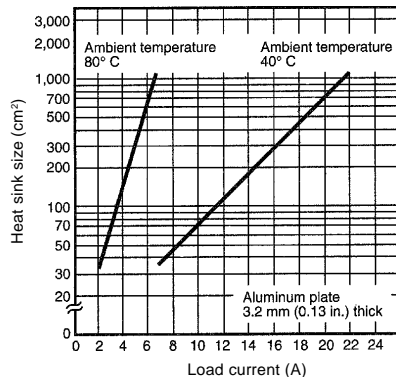
G3NA-240B
G3NA-440B



G3NA-D210B



Heat Sink Size vs. Load Current
G3NA-220B



Note: The heat sink size refers to the combined area of the sides of the heat sink that radiate heat. For example, when a current of 18 A is allowed to flow through the SSR at 40°C, the graph shows that the heat sink size is about 450 cm². Therefore, if the heat sink is square, one side of the heat sink must be 15 cm (15² x 2 = 450) or longer.

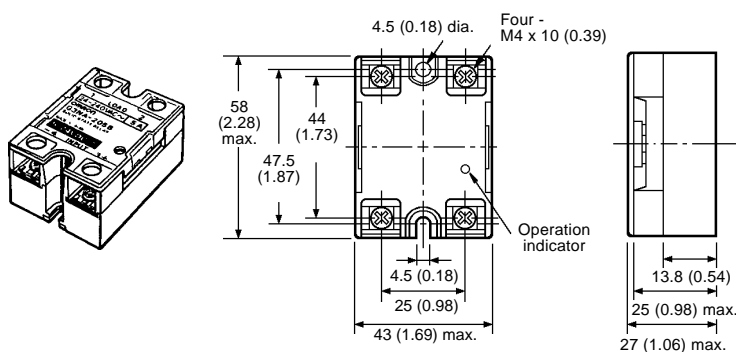
Dimensions

In the case of surface mounting, a 30% derating of load current is required.

Unit: mm (inch)

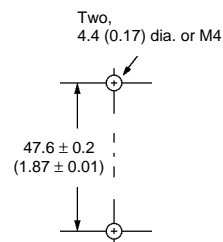
■ **SOLID-STATE RELAYS**

G3NA-205B, G3NA-210B, G3NA-220B,
G3NA-225B, G3NA-410B,
G3NA-420B, G3NA-425B

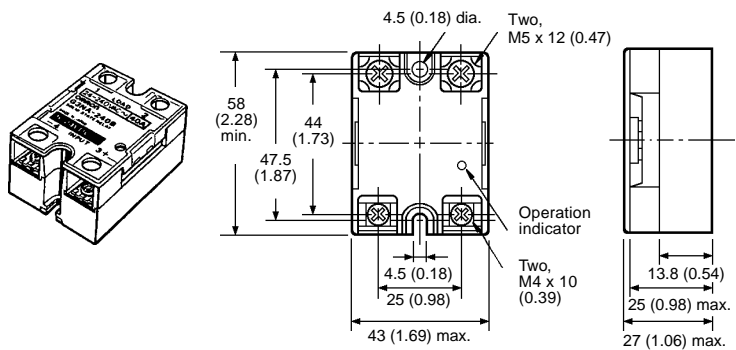


**Terminal arrangement/
Internal connections**
(Top view)

Mounting holes
(Bottom view)

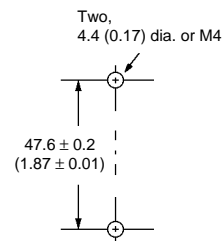


G3NA-240B, G3NA-440B



**Terminal arrangement/
Internal connections**
(Top view)

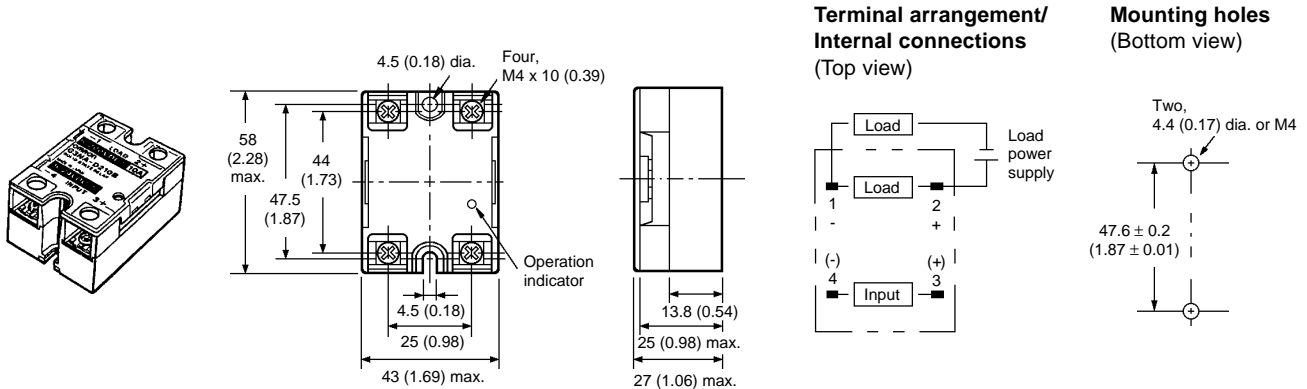
Mounting holes
(Bottom view)



Unit: mm (inch)

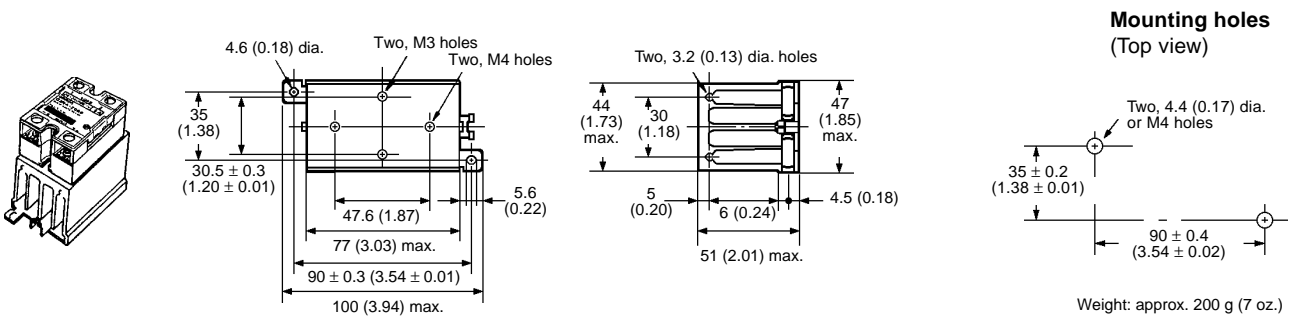
■ SOLID-STATE RELAYS (continued)

G3NA-D210B

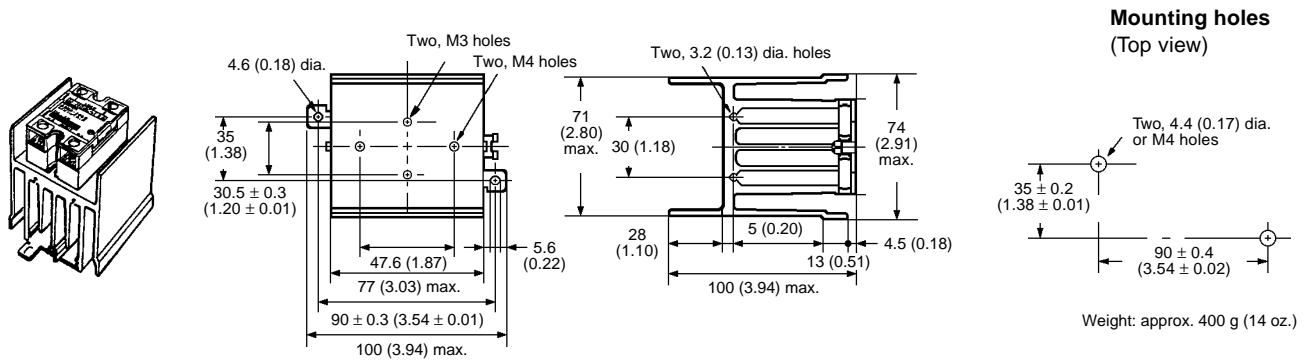


■ HEAT SINKS

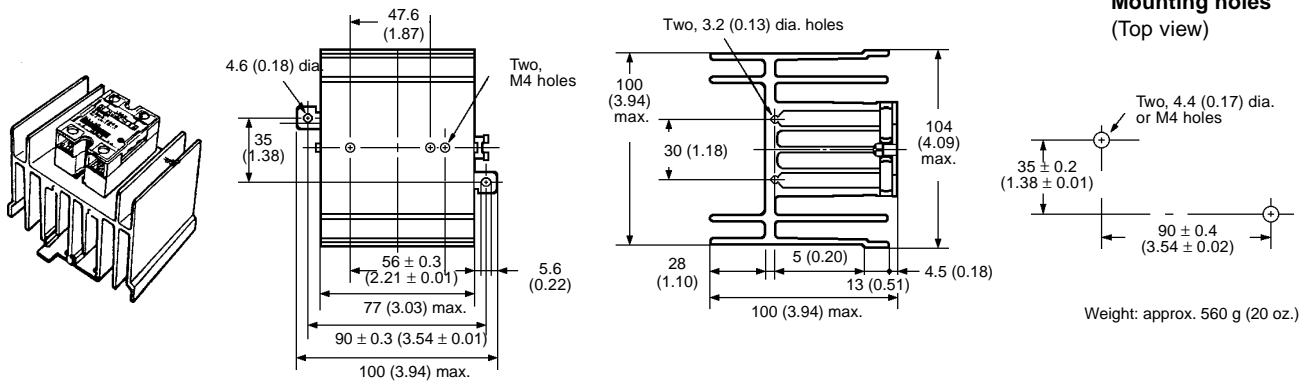
Track Mount Heat Sink – Y92B-N50



Track Mount Heat Sink – Y92B-N100

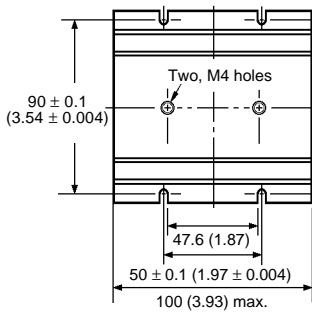


Track Mount Heat Sink – Y92B-N150

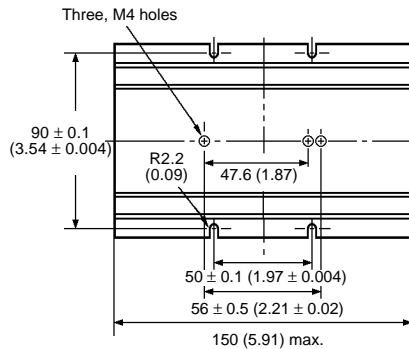


Standard Mount Heat Sinks

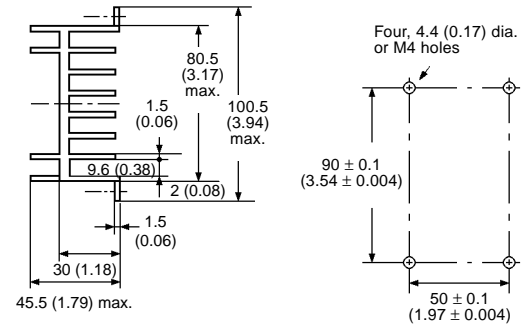
Y92B-A100



Y92B-A150

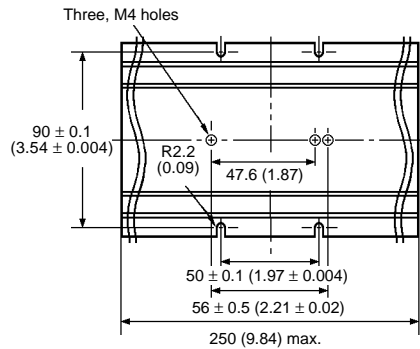


Mounting holes
Y92B-A100, Y92B-A150N
Y92B-A250

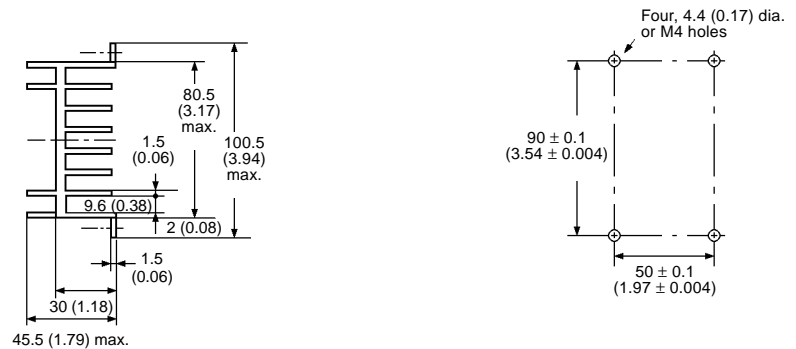


Standard Mount Heat Sinks

Y92B-A250



Mounting holes



R99-11 Mounting Bracket for G3NA-240B



Note: Use mounting bracket R99-11 to mount the G3NA-240B with a pitch of 56 mm (2.21 in) instead of 47.5 mm (1.87 in) to match the pitch of G3N-240B.

■ APPROVALS

UL (File No. E64562)/CSA (File No. LR35535)

| SSR type | Input voltage | Load type | Contact ratings | |
|------------|-------------------------------|----------------------|--------------------------|-----------------------------|
| | | | Without heat sink | With heat sink (see note 1) |
| G3NA-205B | 5 to 24 VDC 100 to 120 VAC | General use/Tungsten | 3 A, 240 VAC | 5 A, 240 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 240 VAC | 2.5 FLA, 15 LRA, 240 VAC |
| G3NA-210B | 200 to 240 VAC | General use/Tungsten | 4 A, 240 VAC | 10 A, 240 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 240 VAC | 5 FLA, 30 LRA, 240 VAC |
| G3NA-220B | | General use/Tungsten | 4 A, 240 VAC | 20 A, 240 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 240 VAC | 10 FLA, 60 LRA, 240 VAC |
| G3NA-225B | | General use/Tungsten | 4 A, 240 VAC | 25 A, 240 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 240 VAC | 12 FLA, 72 LRA, 240 VAC |
| G3NA-240B | | General use/Tungsten | 6 A, 240 VAC | 40 A, 240 VAC |
| | | Motor | 5 FLA, 30 LRA, 240 VAC | 20 FLA, 120 LRA, 240 VAC |
| G3NA-410B | 5 to 24 VDC 100 to 240 VAC | General use/Tungsten | 4 A, 480 VAC | 10 A, 480 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 480 VAC | 5 FLA, 30 LRA, 480 VAC |
| G3NA-420B | | General use/Tungsten | 4 A, 480 VAC | 20 A, 480 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 480 VAC | 10 FLA, 60 LRA, 480 VAC |
| G3NA-425B | | General use/Tungsten | 4 A, 480 VAC | 25 A, 480 VAC |
| | | Motor | 2.5 FLA, 15 LRA, 480 VAC | 12 FLA, 72 LRA, 480 VAC |
| G3NA-440B | | General use/Tungsten | 6 A, 480 VAC | 40 A, 480 VAC |
| | | Motor | 5 FLA, 30 LRA, 480 VAC | 20 FLA, 120 LRA, 480 VAC |
| G3NA-D210B | | General use | 4 A, 200 VDC | 10 A, 200 VDC |

- Note: 1. When used with the proper OMRON heat sink part number or an appropriately dimensioned equivalent.
 2. The rated values approved by each of the safety standards (e.g., UL, CSA, and TUV) may be different from the performance characteristics individually defined in this catalog.
 3. 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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[AQY414SXE01](#) [26532764](#) [H10CA4850](#) [H12CA4890VL](#) [RA2410-D06](#) [RA2410-D06T](#) [D1202F](#) [D53TP50-10](#) [W230E-1-12](#) [W230T-3-12](#)
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