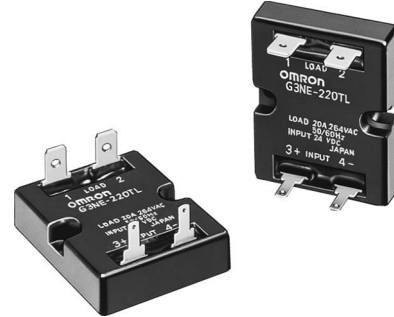




# Solid State Relay G3NE

## Compact, Low-cost, SSR Switching 5 to 20 A

- Wide load voltage range: 75 to 264 VAC.
- Dedicated, compact aluminum PCB and power elements used.
- Built-in varistor effectively absorbs external surges.
- Quick-connect #110 input terminals and #250 output connections. (#187 input terminals available).
- Approved by UL, CSA and TÜV; marked with CE.



## Ordering Information

To order: Select the part number and add the desired coil voltage rating, (e.g., G3NE-205T-US DC24)

Isolation	Zero cross function	Indicator	Rated output load (applicable output load)	Rated input voltage	Model
Phototriac	Yes	No	5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5, 12, 24 VDC	G3NE-205T-US
			10 A at 100 to 240 VAC (10 A at 75 to 264 VAC)		G3NE-210T-US
			20 A at 100 to 240 VAC (20 A at 75 to 264 VAC)		G3NE-220T-US
	No		5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)		G3NE-205TL-US
			10 A at 100 to 240 VAC (10 A at 75 to 264 VAC)		G3NE-210TL-US
			20 A at 100 to 240 VAC (20 A at 75 to 264 VAC)		G3NE-220TL-US

Note: For information on ordering #187 input terminals contact your local Omron representative

### ■ ACCESSORIES (ORDER SEPARATELY)

#### Heat Sink

The following heat sinks are thin and can be track-mounted. See *Dimensions* for details.

Part number	Applicable SSR
Y92B-N50	G3NE-205T(L)/-210T(L)
Y92B-N100	G3NE-220T(L)

# Specifications

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## ■ RATINGS

### Input

Rated voltage	Operating voltage	Voltage level		Input impedance	
		Must operate	Must release	With zero cross function	Without zero cross function
5 VDC	4 to 6 VDC	4 VDC max.	1 VDC min.	250 Ω ±20%	300 kΩ ±20%
12 VDC	9.6 to 14.4 VDC	9.6 VDC max.		600 Ω ±20%	800 kΩ ±20%
24 VDC	19.2 to 28.8 VDC	19.2 VDC max.		1.6 kΩ ±20%	

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

### Output

Part number	Applicable load				
	Rated load voltage	Load voltage range	Load current		Inrush current
			With heat sink	Without heat sink	
G3NE-205T(L)-US	100 to 240 VAC	75 to 264 VAC	0.1 to 5 A	0.1 to 5 A	60 A (60 Hz, 1 cycle)
G3NE-210T(L)-US			0.1 to 10 A (see note)	0.1 to 5 A	150 A (60 Hz, 1 cycle)
G3NE-220T(L)-US			0.1 to 20 A (see note)	0.1 to 5 A	220 A (60 Hz, 1 cycle)

**Note:** These values apply when using a dedicated radiator or a radiation plate of specified size.

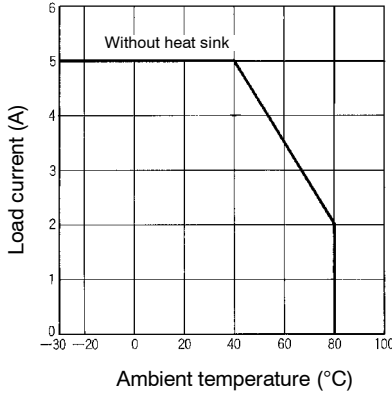
## ■ CHARACTERISTICS

Item	G3NE-2□□T-US	G3NE-2□□TL-US
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	1.6 V (RMS) max.	
Leakage current	2 mA max. (at 100 VAC) 5 mA max. (at 200 VAC)	
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric strength	2,000 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 nor condensation) Storage: -30°C to 100°C (with no icing nor condensation)	
Ambient humidity	Operating: 45% to 85%	
Approved standards	UL508 File No.E64562/CSA C22.2 (No.0, No.14) File No. LR35535 TÜV R9051064 (VDE0435) (EN60950)	
Weight	Approx. 37 g	

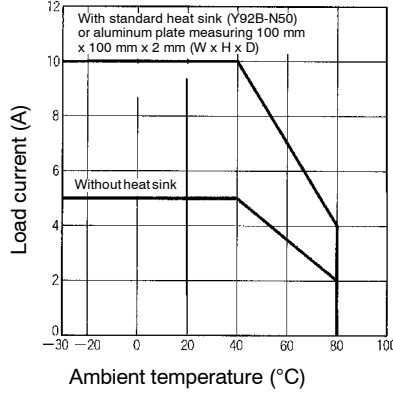
# Engineering Data

## Load Current vs. Ambient Temperature Characteristics

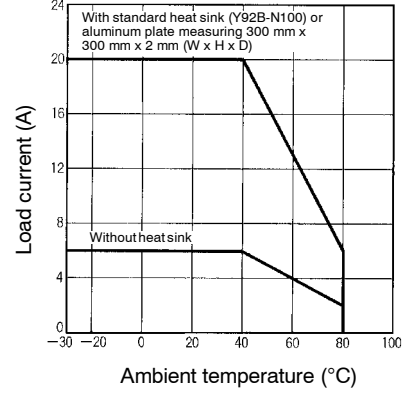
**G3NE-205T(L)-US**



**G3NE-210T(L)-US**



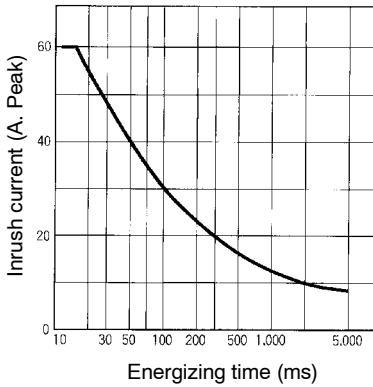
**G3NE-220T(L)-US**



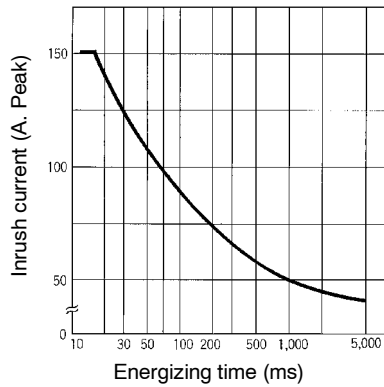
## Inrush Current Resistivity

One cycle, non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

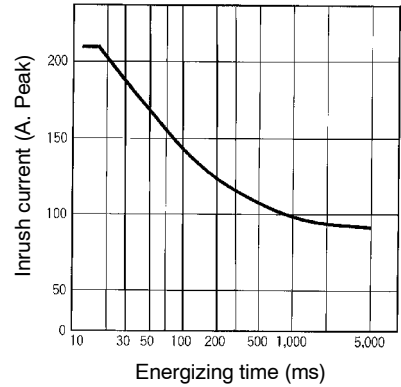
**G3NE-205T(L)-US**



**G3NE-210T(L)-US**



**G3NE-220T(L)-US**

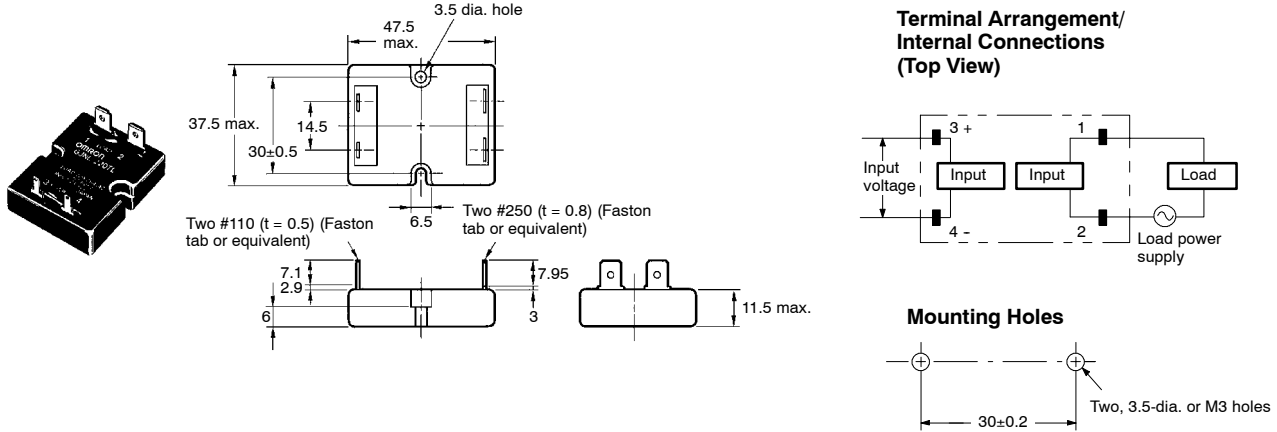




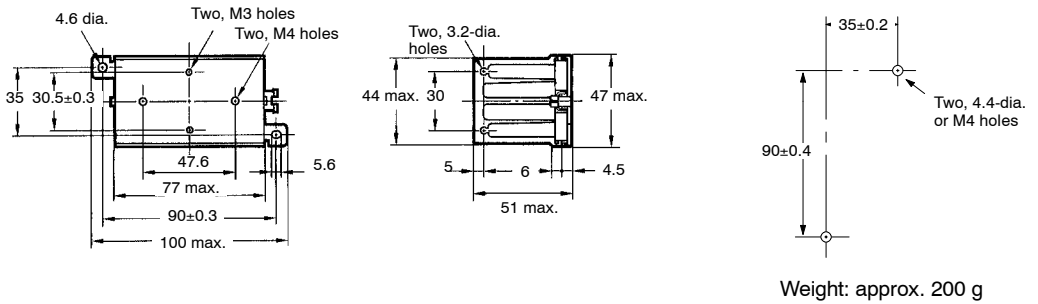
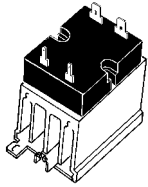
# Dimensions

Unit: mm (inch)

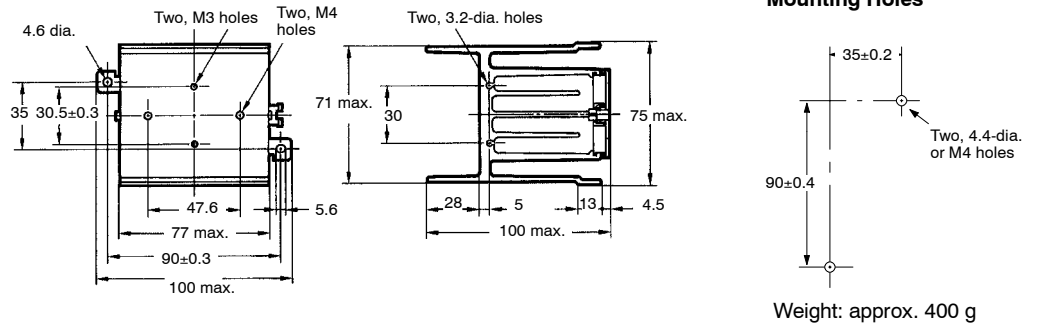
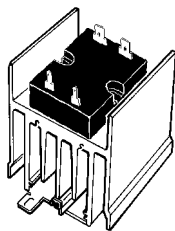
## G3NE-205T(L)/210T(L)/220T(L)-US



## Heat Sink Y92B-N50



## Y92B-N100



## ■ APPROVALS

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

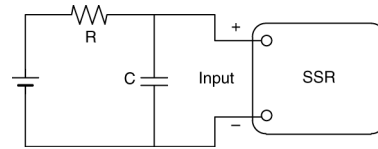
Input voltage	SSR type	Output ratings
5, 12, 24 VDC	G3NE-205	5 A resistive 240 VAC, 3 A Tungsten 240 VAC, 3.2 A FLA 19.2 A LRA 240 VAC, 50/60 Hz
	G3NE-210	10 A resistive 240 VAC, 7.5 A Tungsten 240 VAC, 4.8 A FLA 28.8 A LRA 240 VAC, 50/60 Hz
	G3NE-210	5 A resistive 240 VAC, 5 A Tungsten 240 VAC, 3 A FLA, 18 A LRA, 240 VAC, 50/60 Hz
	G3NE-220	20 A resistive 240 VAC, 11 A Tungsten 240 VAC, 11.1 FLA, 66.6 LRA, 240 VAC, 50/60 Hz
	G3NE-220	6 A resistive 240 VAC, 6 A Tungsten 240 VAC, 3.3 FLA, 19.8 LRA, 240 VAC, 50/60 Hz

## Precautions

Refer to the pages at the back of the catalog for general precautions.

Although the LOAD terminal are internally connected to a snubber circuit that absorbs noises, do not wire power lines or high-tension lines with the load connecting lines of the G3NE in the same conduit or the G3NE may be damaged or malfunction.

Because the operation time of the G3NE is extremely short, take measures to suppress noise induced between the INPUT terminals. If generation of strong noise is expected, connect an external noise absorber such as an RC circuit.



Do not apply excessive force to the terminals. Exercise care when pulling or inserting the terminal clips.

When attaching a heat sink to the G3NE, apply heat conductive grease on the heat sink. Tighten the mounting screws of the heat sink with a torque of 0.59 to 0.98 N-m.

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  - Products:** Products and/or services of Seller
  - Including:** Including without limitation
- Offer/Acceptance:** These Terms are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of Products by Seller. Seller hereby objects to any Terms proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
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- Force Majeure:** Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
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  - All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buyer;
  - 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 must be presented in detail in writing to Seller within 30 days of receipt of shipment.

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