

AQ-J SOLID STATE RELAY

AQ-J RELAYS

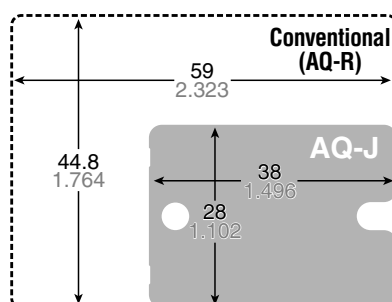


FEATURES

1. Ultra-compact size

Space saved with footprint 40% that of previous.

- Footprint comparison (Unit: mm inch)



2. Built-in varistor

Superior external noise absorption.

3. Three types available from 10 A to 25 A.

4. Reverse input connection prevention function.

5. Uses #110 type input and #250 type output terminals.

6. Environmentally friendly

Supports RoHS Directive (2002/95/EC)

RoHS Directive compatibility information
<http://www.nais-e.com/>

TYPICAL APPLICATIONS

1. Kitchen appliances (Flyer etc.)
2. Vending machine
3. Injection molding machine
4. Amusement machine

TYPES

Type	Load current	Load voltage	Input voltage	Part No.
Zero-cross	10A	75V to 264V AC	4 to 6V DC	AQJ112V
			10 to 18V DC	AQJ119V
			18 to 28V DC	AQJ116V
	15A		4 to 6V DC	AQJ212V
			10 to 18V DC	AQJ219V
			18 to 28V DC	AQJ216V
	25A		4 to 6V DC	AQJ412V
			10 to 18V DC	AQJ419V
			18 to 28V DC	AQJ416V

ORDERING INFORMATION

Ex. AQJ

Load current/voltage	Terminal	Input voltage	Built-in varistor
1: 10 A 75 to 264 V AC 2: 15 A 75 to 264 V AC 4: 25 A 75 to 264 V AC	1: Plug-in terminal, Zero-cross 2: Plug-in terminal, Random*	2: 4 to 6 V DC 6: 18 to 28 V DC 9: 10 to 18 V DC	V: Built-in varistor

*Random type is available by custom order.

Note: Standard packing: Carton 10 pcs., Case: 200 pcs.

SPECIFICATIONS

1. Ratings (at 20°C 68°F, input ripple: 1% or less)

1) Input side

Type	AQJ112V AQJ212V AQJ412V	AQJ119V AQJ219V AQJ419V	AQJ116V AQJ216V AQJ416V
Item			
Rated voltage	5V DC	12V DC	24V DC
Input voltage	4 to 6V DC	10 to 18V DC	18 to 28V DC
Input impedance	Approx. 260Ω	Approx. 800Ω	Approx. 1.6kΩ
Drop-out voltage	Min. 1V DC		

AQ-J

2) Output side

Type	AQJ112V AQJ119V AQJ116V	AQJ212V AQJ219V AQJ216V	AQJ412V AQJ419V AQJ416V
Item			
Max. load current	10A	15A	25A
Load voltage	75 to 264V AC		
Frequency	45Hz to 65Hz		
Non-repetitive surge current	100A	150A	250A
Max. "OFF-state" leakage current	Max. 5mA		
Max. "ON-state" voltage drop	Max. 1.6V		
Min. load current*	50mA		

* See CAUTIONS FOR USE 2. Output side (Using be below the specified load)

2. Characteristics (at 20°C 68°F, input ripple: 1% or less)

Type	Characteristics	Remarks
Operate time, max.	(1/2 cycle of voltage sine wave) + 1ms	
Release time, max.	(1/2 cycle of voltage sine wave) + 1ms	
Insulation resistance, min.	100MΩ between input to output to case	Using 500 V DC megger
Breakdown voltage	3,000 Vrms between input and output 2,500 Vrms between input, output and case	for 1min.
Vibration resistance	10 to 55 Hz double amplitude of 1.5mm	X, Y, Z axes
Shock resistance	Min. 980m/s ²	X, Y, Z axes
Ambient temperature	-30 to +80°C -22 to +176°F	Non-condensing at low temperatures
Storage temperature	-30 to +100°C -22 to +212°F	
Operational method	Zero-cross (Turn ON and Turn OFF)	

REFERENCE DATA

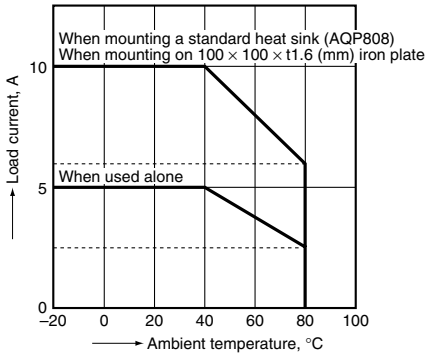
1. Load current vs. ambient temperature

Use load current within range specified in the figure below

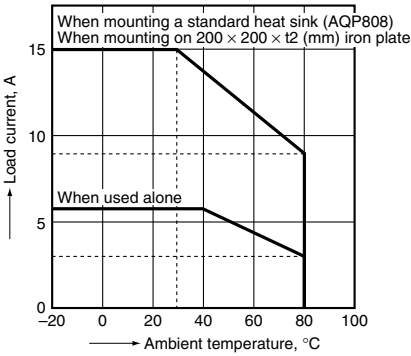
Tested condition:

- 1) If attached to a heat sink, use a heat conductive compound (Ex. Toshiba silicone YG6111 or TSK5303) of similar coating to improve cooling
- 2) Without external heat sink
If the mounting surface is not metallic and a heat sink is not used, expose the bottom surface and plate surface to improve heat dissipation.

(1) 10A type

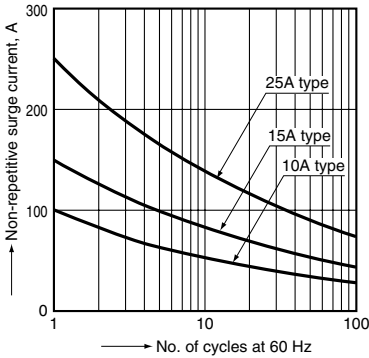
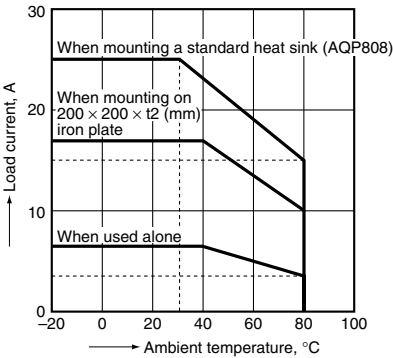


(2) 15A type



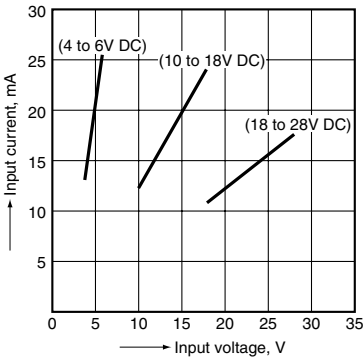
2. Non-repetitive surge current vs. carrying time

(3) 25A type

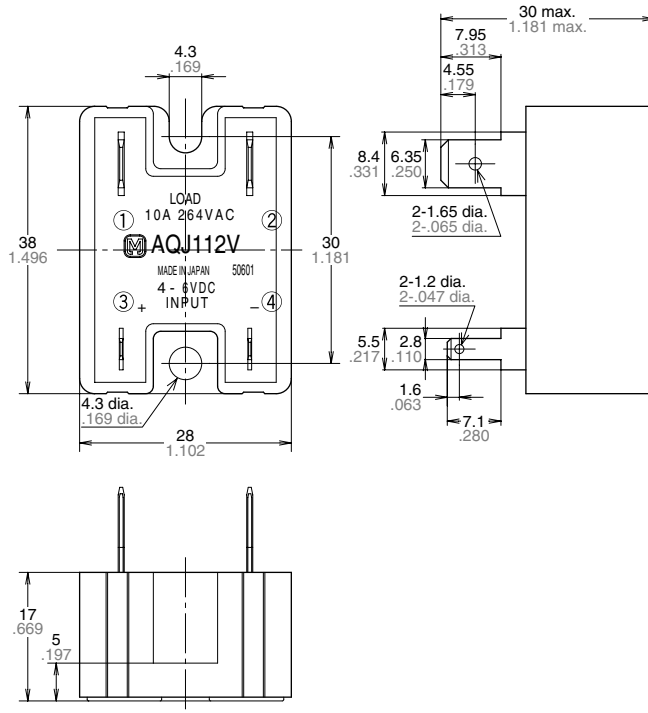


3. Input current vs. input voltage characteristics

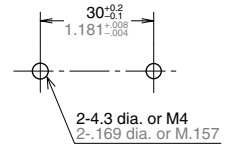
(10A, 15A and 25A common)



DIMENSIONS



Mounting dimensions



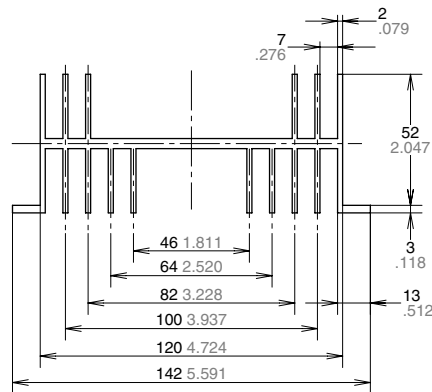
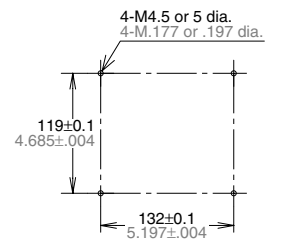
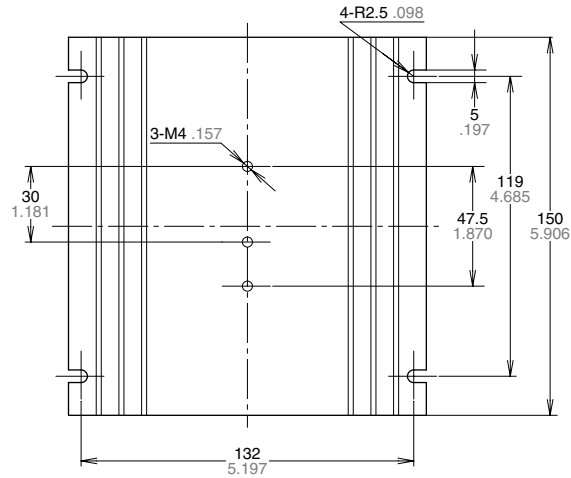
ACCESSORIES

Heat sink



AQP-HS-J25A

Mounting dimensions



General tolerance: $\pm 0.5 \pm 0.020$

For Cautions for Use.