

UL (60950-1) reinforced
insulation compliant



**Load current 15 to 40A
Small Screw Terminal SSR**

AQ-A RELAYS (AC only)

New



RoHS compliant

FEATURES

- 1. Compact Size**
W 40 × L 58 × H 25.5 mm
W 1.575 × L 2.283 × H 1.004 inch
- 2. With terminal cover for safety (output side only).**
* Cover on input side available as option.
- 3. Mounting pitch 47.5 mm 1.870 inch**
- 4. Built in varistor for excellent surge absorption**
- 5. With LED indication for operation status verification**

TYPICAL APPLICATIONS

- Heater control
- **Business use:**
Cooking machine, Vending machine, Freezer and Refrigerator
 - **Industrial use:**
Molding machine, Temperature controlled bath, Printing machine and Packing machine

ORDERING INFORMATION

AQA



Output current

- 2: 15A
4: 25A
6: 40A

Load voltage, Type

- 1: 75 V to 250 V AC, Screw terminal, Zero-cross
2: 75 V to 250 V AC, Screw terminal, Random*

Input voltage

- 1: 4 to 32 V DC

Functions

- VL: Built-in varistor and LED indication

* Random type is available by custom order.

TYPES

1. AQ-A Solid State Relays

Type	Load current	Load voltage	Input voltage	Part No.
Zero-cross	15A	75V to 250V AC	4 to 32V DC	AQA211VL
	25A			AQA411VL
	40A			AQA611VL

Standard Packing; carton: 2 pcs., case: 60 pcs.
Note: Random type also available. Please inquire.

2. Accessories

Type	Part No.	Packaged quantity
Standard heat sink (15A)	AQP-HS-J10A	5 in a carton, 20 in a case
Standard heat sink (25A)	AQP-HS-30/40A	5 in a carton, 20 in a case
Standard heat sink (40A)	AQP-HS-J25A	No carton, 5 in a case
Slim heat sink (45mm wide) (Mountable on a DIN rail)	AQP-HS-SJ20A	No carton, 8 in a case
DIN rail mounting plate	AQP-DPJ	No carton, 50 in a case
Terminal cover	AQA801	—

RATING

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

Ratings (Measurement condition at 25°C ± 5°C, input ripple 1% of I _{DC})					
Item	Part No.	AQA211VL	AQA411VL	AQA611VL	Remarks
Input side	Input voltage		4 to 32V DC		
	Input current		Max. 20mA		
	Drop-out voltage		Min. 1V		
Output side	Max. load current	15A	25A	40A	
	Load voltage	75 to 250V AC			
	Frequency	45 to 65Hz			
	Non-repetitive surge current	150A	250A	400A	In one cycle at 60Hz
	“OFF-state” leakage current		Max. 10mA		at 60Hz
	“ON-state” voltage drop		Max. 1.6V		at Max. carrying current
	Min. load current*		100mA		

Note: * When the load current is less than the rated minimum load current, please refer to "Cautions for Use".

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

Item	AQA211VL	AQA411VL	AQA611VL	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 and output			at 500 V DC
Breakdown voltage	4,000 Vrms between input and output 2,500 Vrms between input, output and case			for 1min.
Vibration resistance (Functional)	10 to 55Hz double amplitude of 1.5mm			X, Y, Z axes
Shock resistance (Functional)	Min. 980 m/s ²			X, Y, Z axes
Ambient temperature	-20°C to +80°C -4°F to +176°F			Non-condensing at low temperatures
Storage temperature	-20°C to +85°C -4°F to +185°F			Non-condensing at low temperatures
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

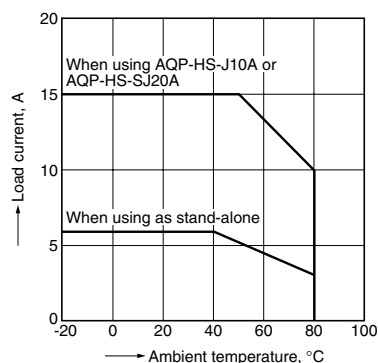
With external heat sink

When using standard heat sink (AQP-HS-J25A, AQP-HS-30/40A, AQP-HS-J10A, AQP-HS-SJ20A)
1) If attached to a heat sink, use a heat conductive compound (Ex. Momentive Performance Materials Inc. YG6111 or TSK5303) of similar coating to improve cooling.

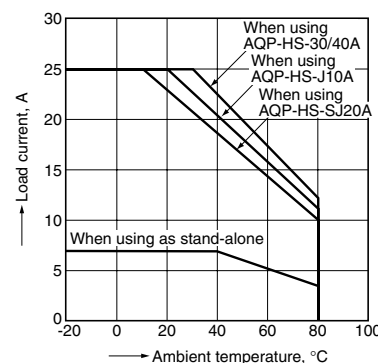
Without external heat sink

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.

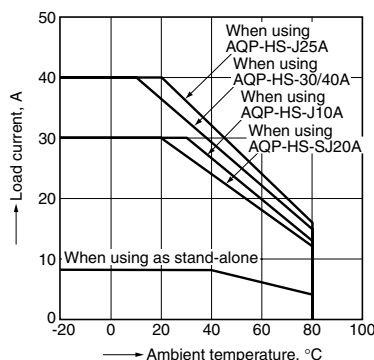
(1) 15A type (AQA211VL)



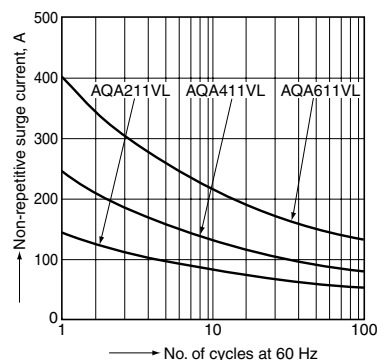
(2) 25A type (AQA411VL)



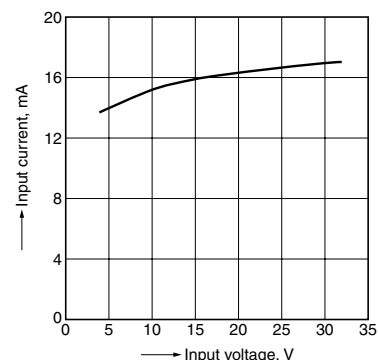
(3) 40A type (AQA611VL)



2. Non-repetitive surge current vs. carrying time characteristics



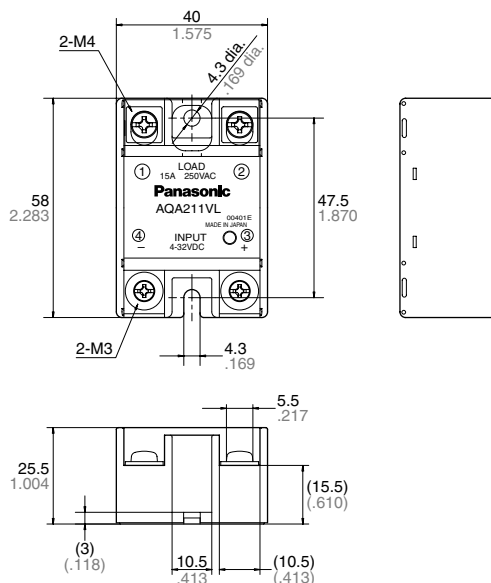
3. Input current vs. input voltage characteristics



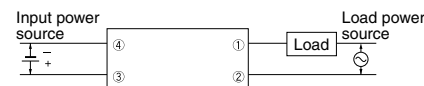
DIMENSIONS (mm inch)

CAD Data

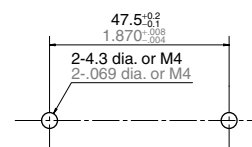
External dimensions



Schematic



Mounting dimensions

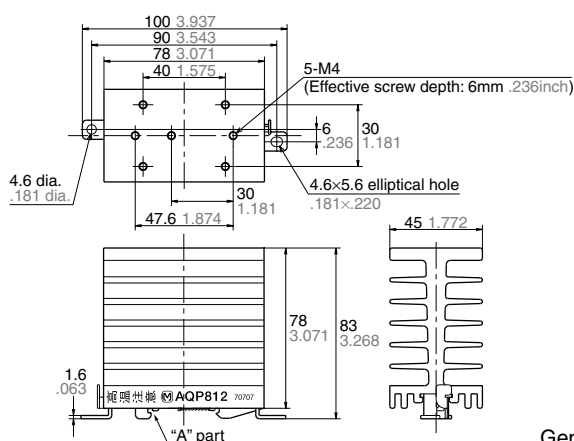


ACCESSORIES (mm inch)

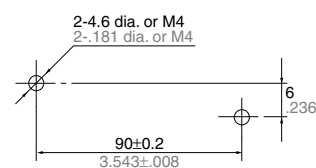
AQP-HS-SJ20A Slim Heat Sink

CAD Data

External dimensions



Mounting dimensions



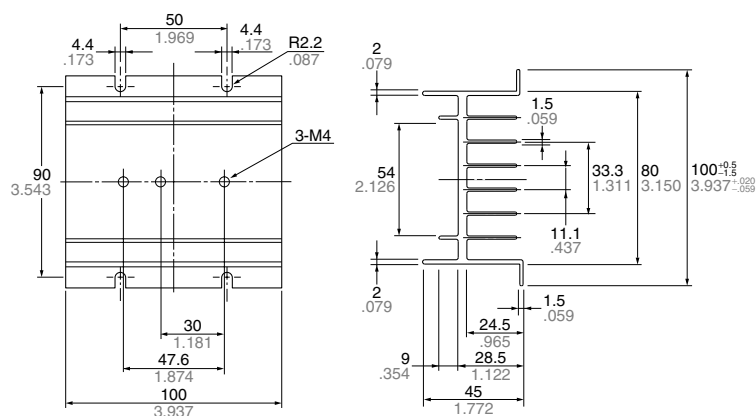
Note: When using on a DIN rail, please install so that the “A” part is on top.

General tolerance: $\pm 1.0 \pm .039$

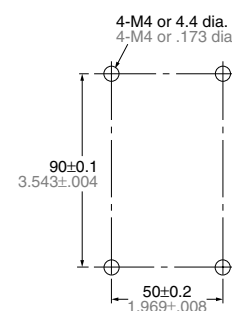
AQP-HS-J10A Standard Heat Sink

CAD Data

External dimensions



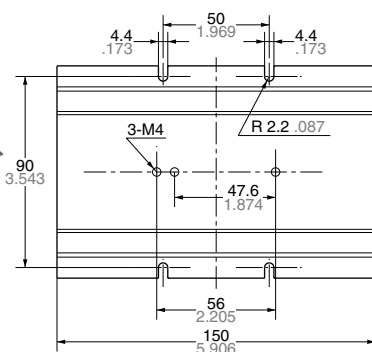
Mounting dimensions



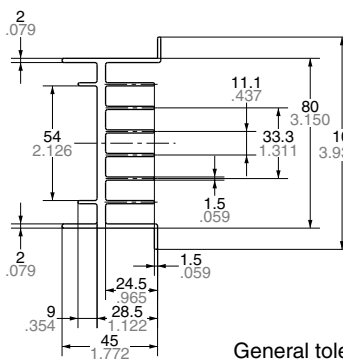
AQ-A (AQA)

AQP-HS-30/40A Standard Heat Sink

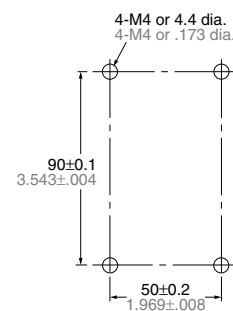
CAD Data



External dimensions



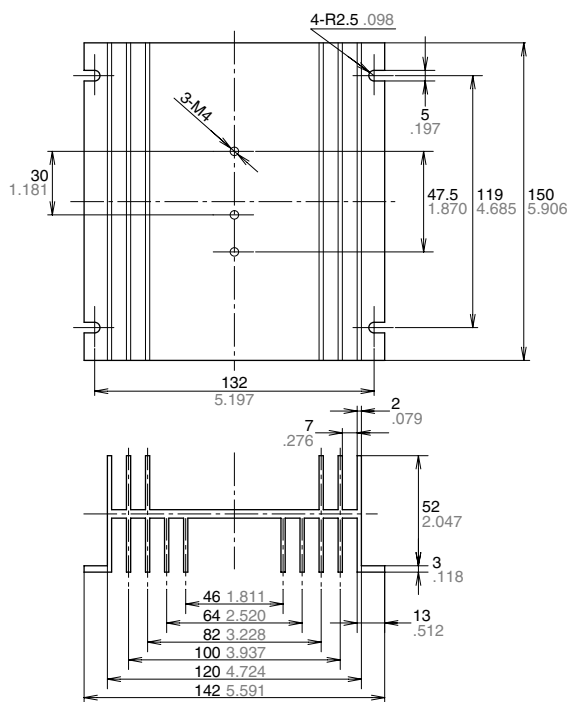
Mounting dimensions



General tolerance: ±0.5 ±.020

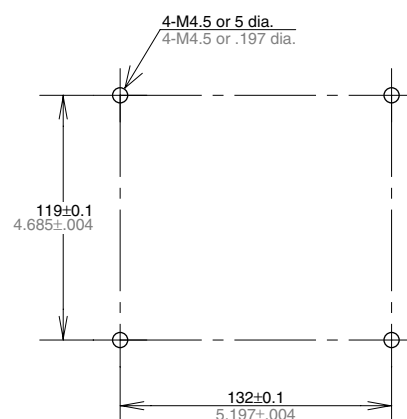
AQP-HS-J25A Standard Heat Sink

CAD Data



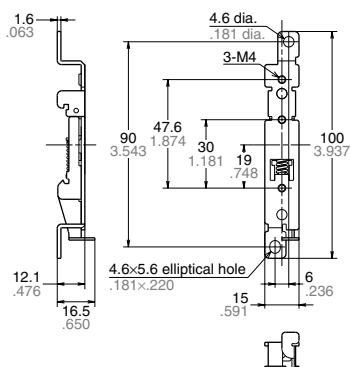
External dimensions

Mounting dimensions



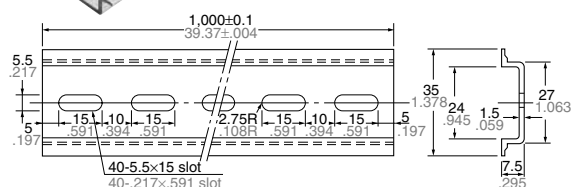
AQP-DPJ DIN Rail Mounting Plate

CAD Data



AT8-DLA1 Mounting Rail

CAD Data



ATA4806 Fastening plate

CAD Data

