



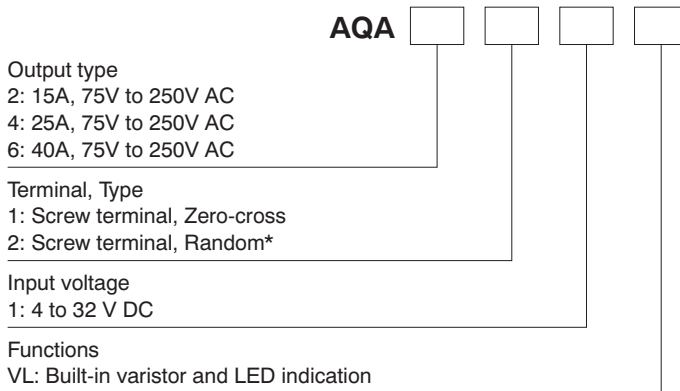
FEATURES

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
 - Refrigerator
 - **Industrial use:**
 - Molding machine
 - Temperature controlled bath
 - Printing machine
 - Packing machine

ORDERING INFORMATION



* 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 | 5 in a bag, 50 in a case |
| Terminal cover | AQA801 | — |

RATING

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

| 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

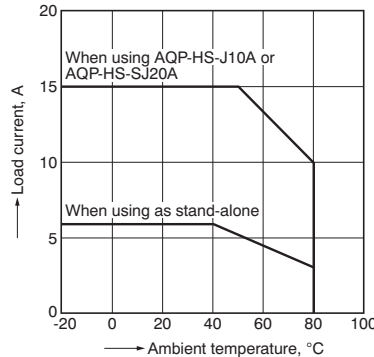
With external heat sink

- (1) When using standard heat sink (AQP-HS-J25A)
 - (2) When using standard heat sink (AQP-HS-30/40A)
 - (3) When using standard heat sink (AQP-HS-J10A)
 - (4) When using standard heat sink (AQP-HS-SJ20A)
- 2) 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.

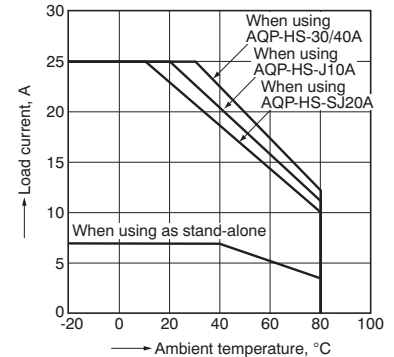
Without external heat sink

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.

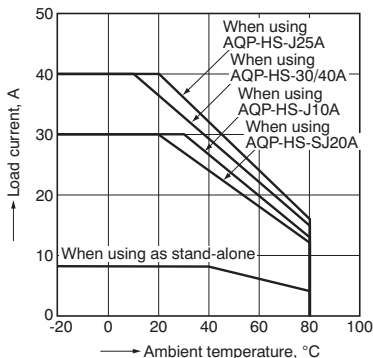
(1) 15A type (AQA211VL)



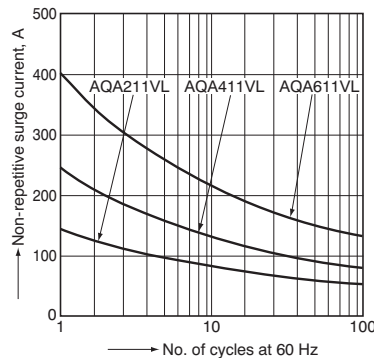
(2) 25A type (AQA411VL)



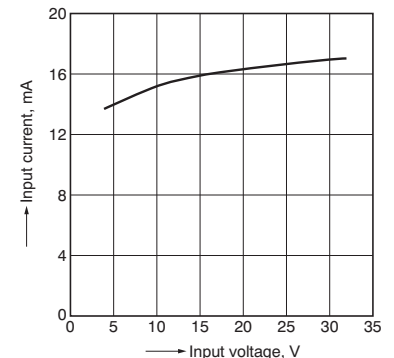
(3) 40A type (AQA611VL)



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



3. Input current vs. input voltage characteristics



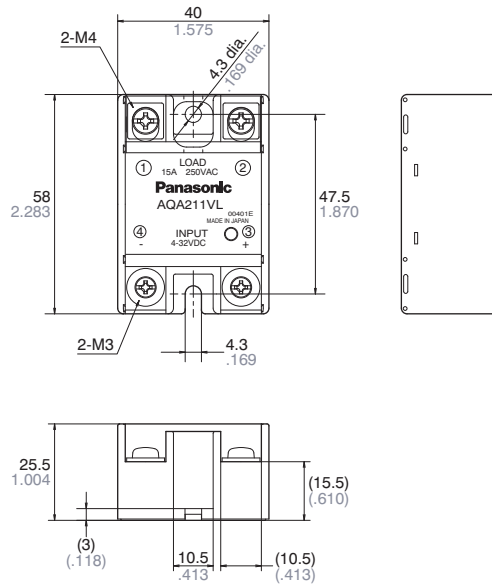
DIMENSIONS (mm inch)

Download [CAD Data](#) from our Web site.

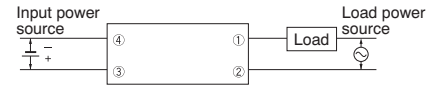
[CAD Data](#)



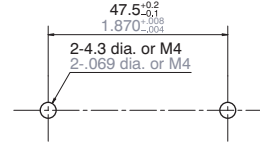
External dimensions



Schematic



Mounting dimensions



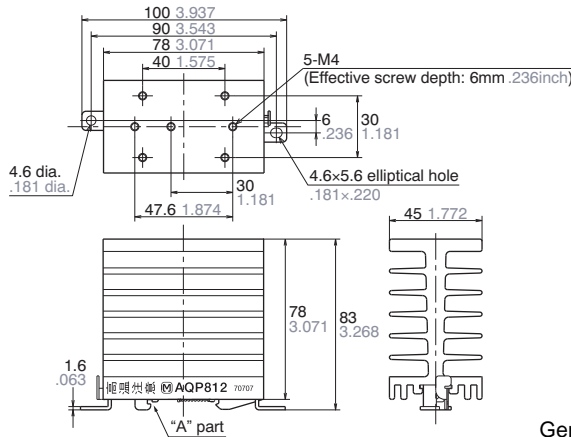
ACCESSORIES (mm inch)

AQP-HS-SJ20A Slim Heat Sink

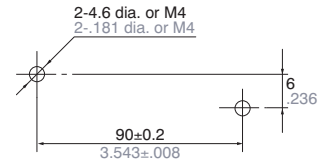
[CAD Data](#)



External dimensions



Mounting dimensions



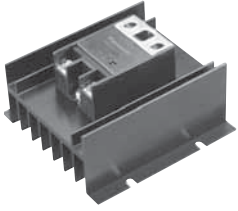
Note: When using on a DIN rail, please install so that the "A" part is on top.

General tolerance: $\pm 1.0 \pm 0.039$

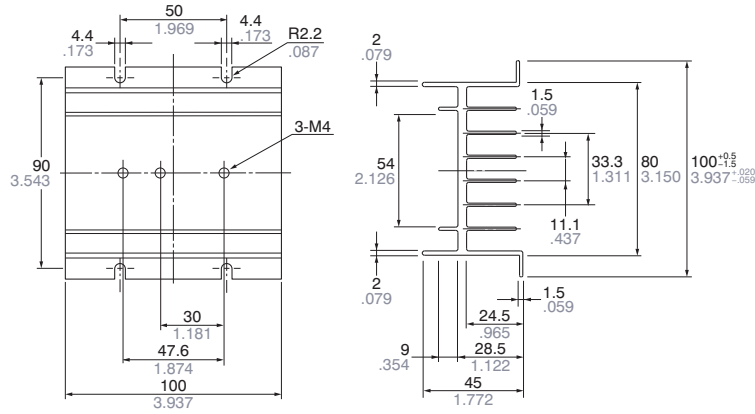
AQ-A

AQP-HS-J10A Standard Heat Sink

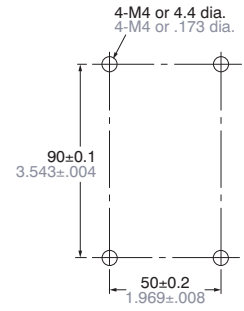
[CAD Data](#)



External dimensions



Mounting dimensions

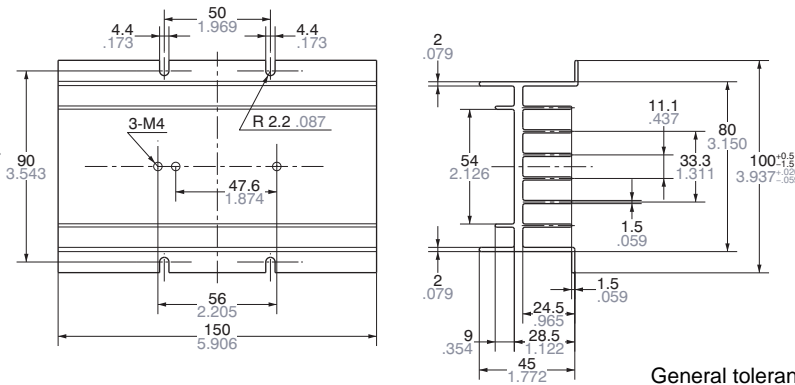


AQP-HS-30/40A Standard Heat Sink

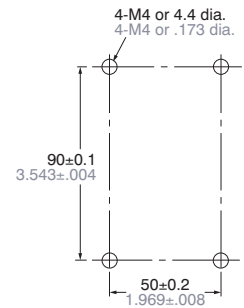
[CAD Data](#)



External dimensions



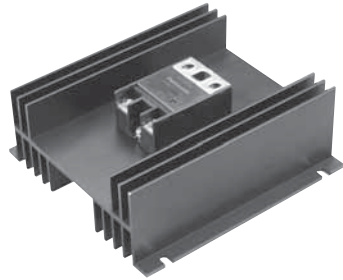
Mounting dimensions



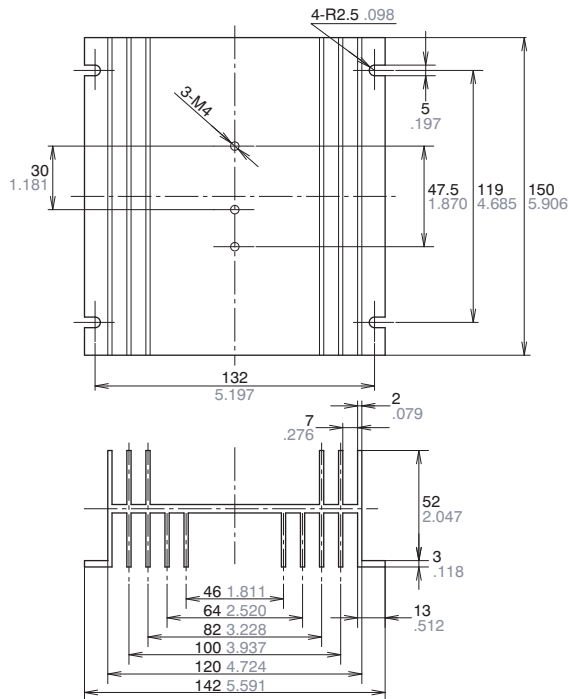
General tolerance: $\pm 0.5 \pm 0.20$

AQP-HS-J25A Standard Heat Sink

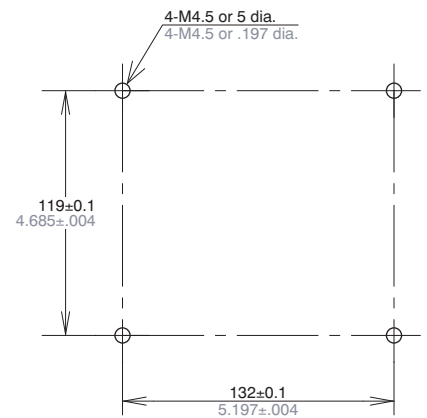
[CAD Data](#)



External dimensions

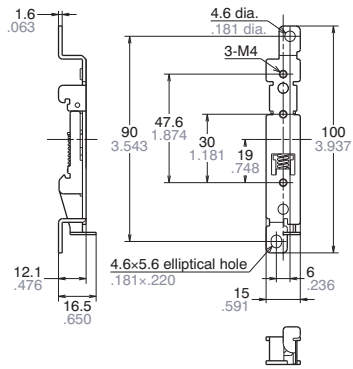


Mounting dimensions



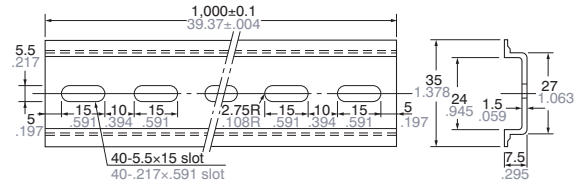
AQP-DPJ DIN Rail Mounting Plate

[CAD Data](#)



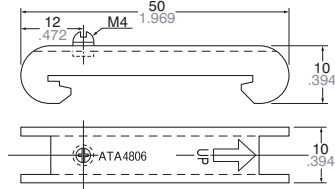
AT8-DLA1 Mounting Rail

[CAD Data](#)



ATA4806 Fastening plate

[CAD Data](#)



Cautions for Use