



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!





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UL (60950-1) reinforced insulation compliant  

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

AQ-A RELAYS (AC only)



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	—
Mounting rail	AT8-DLA1	1 in a carton, 100 in a case
Fastening plate	AT8-DLE	1 in a carton, 200 in a case

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

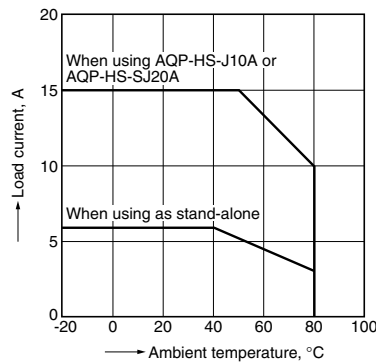
When using standard heat sink (AQP-HS-J25A, AQP-HS-30/40A, AQP-HS-J10A, AQP-HS-SJ20A)

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.

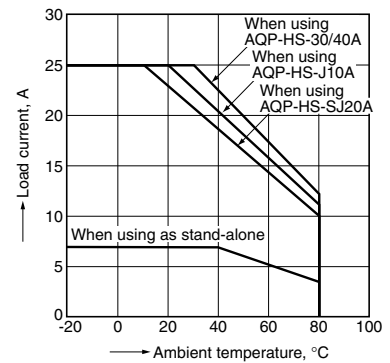
Without external heat sink

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.

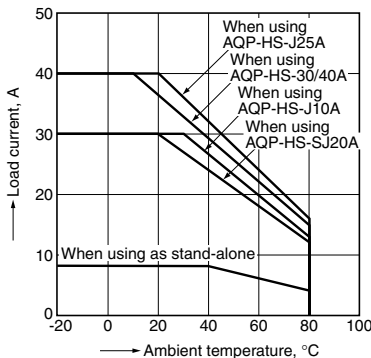
(1) 15A type (AQA211VL)



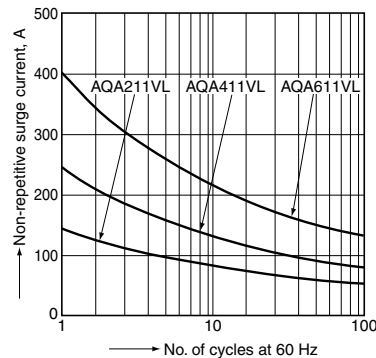
(2) 25A type (AQA411VL)



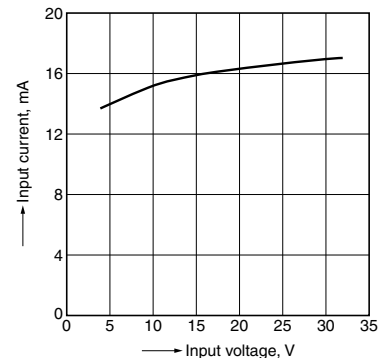
(3) 40A type (AQA611VL)



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



3. Input current vs. input voltage characteristics



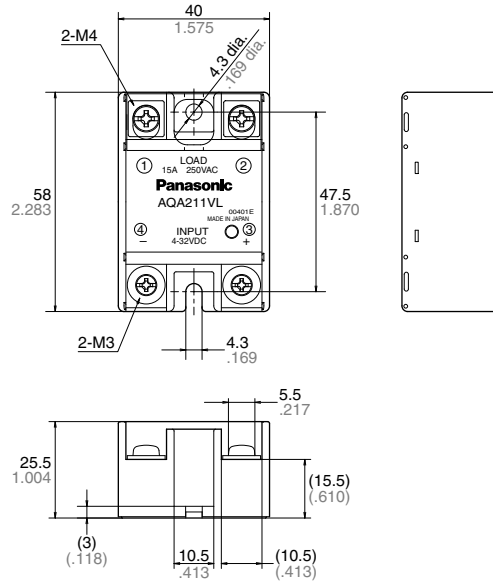
DIMENSIONS (mm inch)

The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://industrial.panasonic.com/ac/e/>

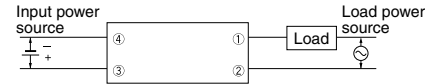
CAD Data



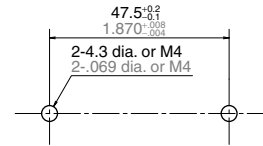
External dimensions



Schematic



Mounting dimensions



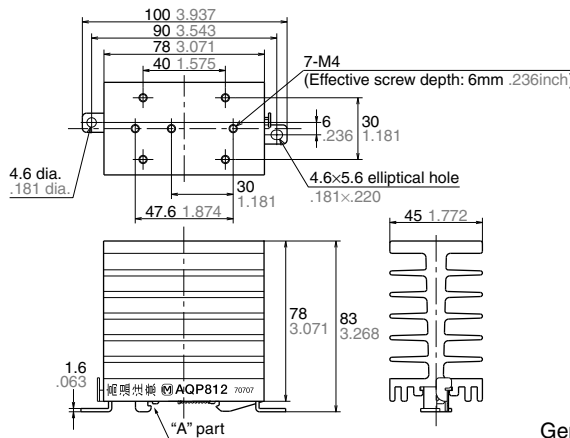
ACCESSORIES (mm inch)

AQP-HS-SJ20A Slim Heat Sink

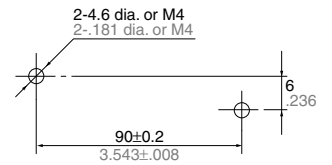
CAD Data



External dimensions



Mounting dimensions



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

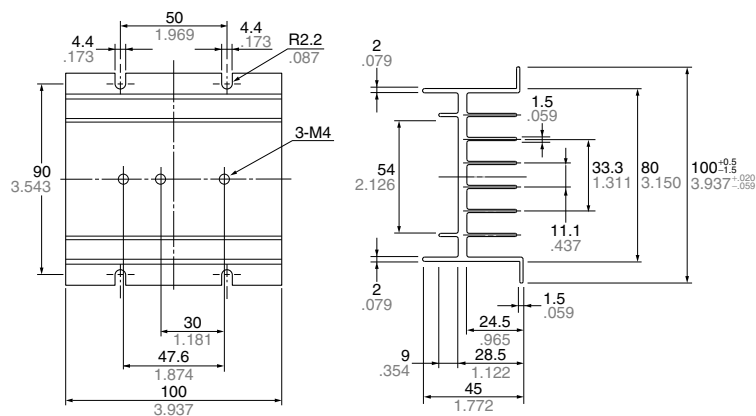
General tolerance: ±1.0 ±.039

AQP-HS-J10A Standard Heat Sink

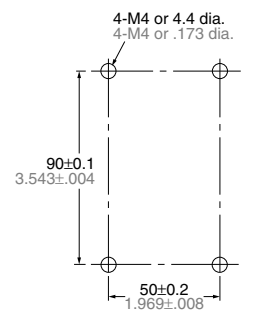
CAD Data



External dimensions



Mounting dimensions



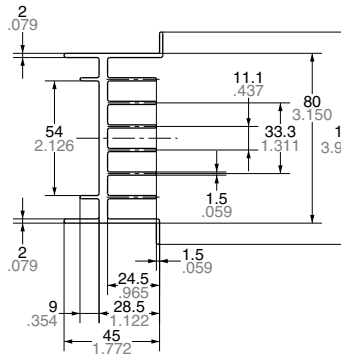
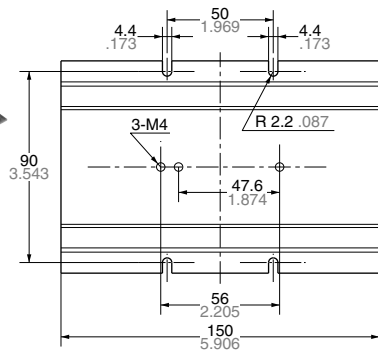
AQ-A (AQA2, 4, 6)

AQP-HS-30/40A Standard Heat Sink

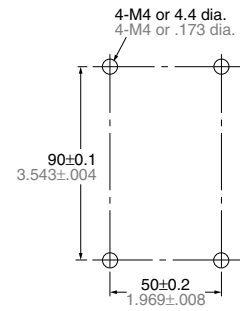
CAD Data



External dimensions



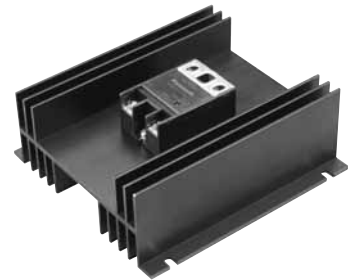
Mounting dimensions



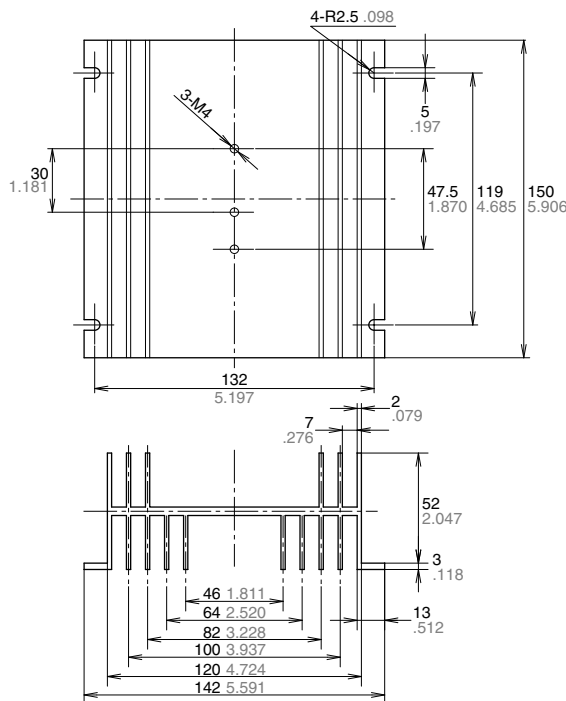
General tolerance: $\pm 0.5 \pm .020$

AQP-HS-J25A Standard Heat Sink

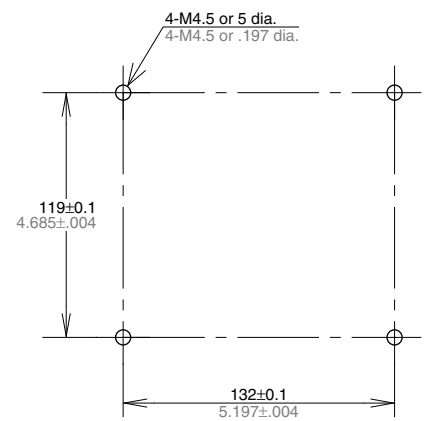
CAD Data



External dimensions

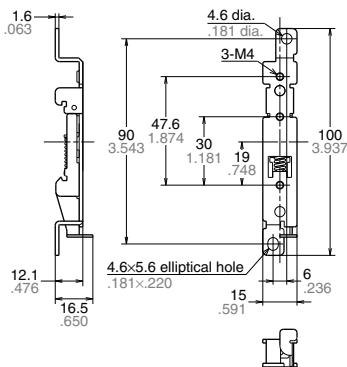


Mounting dimensions



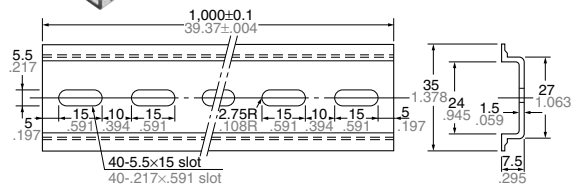
AQP-DPJ DIN Rail Mounting Plate

CAD Data



AT8-DLA1 Mounting Rail

CAD Data



AT8-DLE Fastening plate

CAD Data

