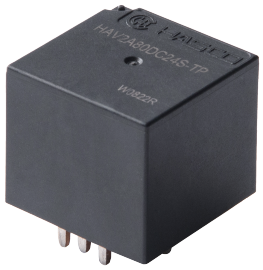
HAV2 SERIES

AUTOMOTIVE RELAY

UNDER DEVELOPMENT

RoHS Compliant



FEATURES

- 80A switching capability
- Extended temp. rang up to 125°C
- Transient suppression resistor or diode available

CHARACTERISTICS

Contact Arrangement	1A, 1C
Voltage Drop	Typ: 200mV(at 10A), Max.: 250mV(at 10A)
Max. Continuous Current	80A(25°C), 50A(85°C), 30A(125°C)
Max. Switching Current	Make(NO):200A Break(NO):80A(Resistive, 13.5VDC)
Min. Contact Load	1A 6VDC
Electrical Endurance	See “CONTACT DATA”
Mechanical Endurance	1×10^6 OPS(300OPS/min)
Insulation Resistance	100MΩ (at 500VDC)
Dielectric Strength	500VAC
Operate time(at nomi. vol.)	≤10ms
Release time(at nomi. vol.)	≤10ms
Ambient Temperature	-40°C~+125°C
Vibration Resistance	5Hz to 22.3Hz 10mm DA 22.3Hz to 500Hz 98m/s^2
Shock Resistance	294m/s^2
Termination	QC, PCB
Unit weight	Approx. 38g
Construction	Sealed Type, Dust Cover Type
Mechanical Data[3)]	housing retention(pull & push):200N min. terminal retention(pull & push):100N min. terminal resistance to bending (front & side):10N min.

Notes:1) The data shown above are initial values.

2) Please find coil temperature curve in the characteristic curves.

3) Only valid for quick connect version.

ORDERING INFORMATION

HAV2 A 80 DC12 S - 1 T P R - XXXX

Model

A=1 Form A
C=1 Form C

80:80A

Coil Voltage

S:Sealed Type Blank:Dust Cover Type

Blank: No mounting slot housing
1: Plate housing with iron mounting
2: With plastic mounting plate shell

Contact Material:T=AgSnO2

P:PC Pin Blank:Quick Connect

Coil parallel element type:
None: No component type
R: With resistance type
D: Diode type, 86 is connected to the cathode
D1: Diode type, 86 is connected to the anode of the diode

Customer Code

Notes:

1. PC board assembled with dust cover type and flux tight type relays can not be washed and/or coated.
2. Dust cover type and flux tight type relays can not be used in the environment with dust, or H_2S, SO_2, NO_2 or similar gaseous environment etc.

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CONTACT DATA

Load Voltage	Load Type		Load Current A	ON/OFF Ratio ON s	ON/OFF Ratio OFF s	Electrical Endurance OPS	Contact Material	Ambient temp.
13.5VDC	Resistive	Make	80	2	3	1×10^5	$AgSnO_2$	at 25°C
		Break	80					
	Inductive	Make	150	2	4	1×10^5	$AgSnO_2$	See Ambient temp. curve
		Break	50					
	Lamp	Make	200	2	2	1×10^5	$AgSnO_2$	
		Break	40					
27VDC	Resistive	Make	40	2	2	1×10^5	$AgSnO_2$	at 25°C
		Break	40					

COIL DATA at 25°C

Nominal Voltage VDC	Pick-up Voltage (Max.) VDC	Drop-out Voltage (Min.) VDC	*Max. Allowable Voltage VDC	Coil Resistance Ω±10%
12	7.2	1.2	20.2	90
24	16.0	2.4	40.5	320

Note:
"*Max Allowable Voltage": The relay coil can endure max allowable voltage for a short period time only.

COIL

Coil Power	12V:1600mW, 24V:1800mW -R:12V=1800mW, 24V=2000mW

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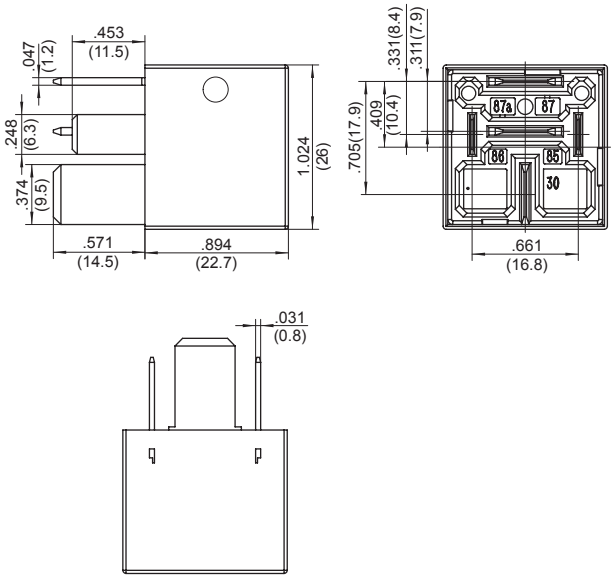
AUTOMOTIVE RELAY

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

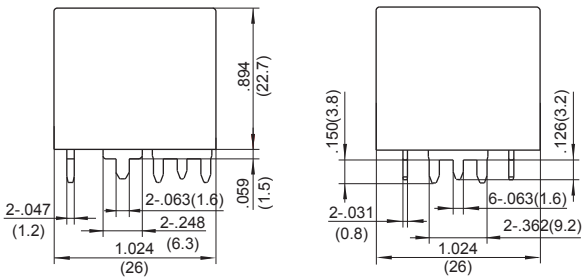
Unit: inch(mm)

Outline Dimensions

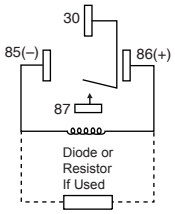
Quick Connect



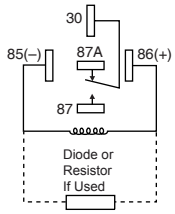
PC Pin



Wiring Diagram (Bottom view)



1A

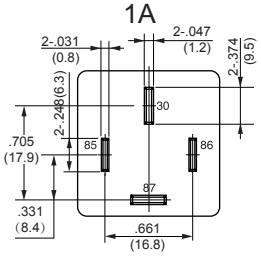


1C

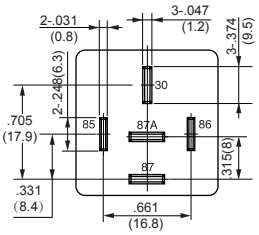
Layout (Bottom view)

Quick Connect

1A

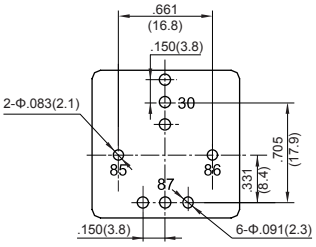


1C

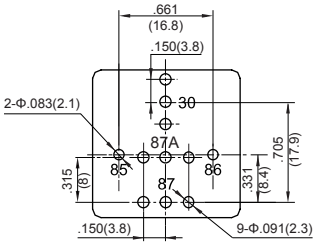


PCB Layout

1A



1C

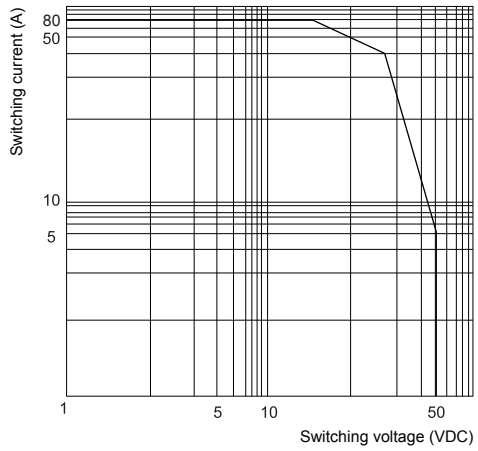


* The tolerance without indicating for PCB layout is always ±0.1mm.

Unless otherwise specified tolerances are:		
≤1mm	＞1mm and ≤5mm	＞5mm
±0.2mm	±0.3mm	±0.4mm

CHARACTERISTIC CURVES

1. Load limit curve

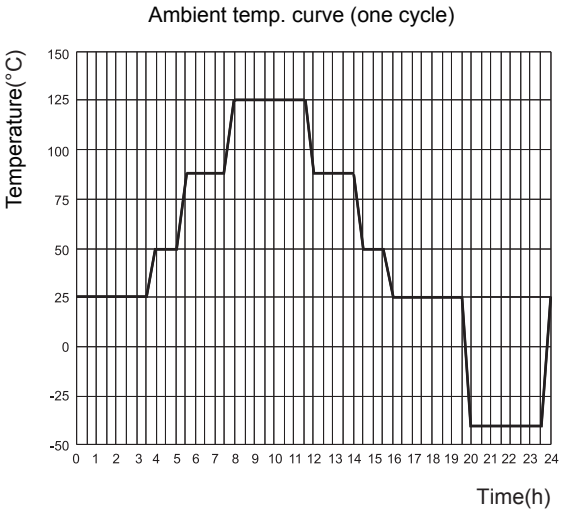


(1) The contact load is resistive.

(2) The load and electrical endurance tests are made according to “CONTACT DATA” parameters’ table. If actual load voltage, current, or operate frequency is different from “CONTACT DATA” table, please arrange corresponding tests for confirmation.

(3) This chart takes 80A load as example.

2. Ambient temperature curve of the electrical endurance test



(1) The minimum temperature is -40°C.

(2) The maximum temperature is 125°C.

PACKAGING SPECIFICATION

BLISTER BOX	INNER CARTON	OUTER CARTON	OUTER CARTON SIZE
20PCS	100PCS	400PCS	L375mm*W280mm*H400mm

APPLICATION GUIDELINES

Automatic Wave Soldering

* Wave solder is the optimum method for soldering.
* Adjust the level of solder so that it does not overflow onto the top of the PC board.
* Unless otherwise specified, solder under the following conditions depending on the type of relay.

Preheat time 20°C-100°C	Rising slope 20°C-120°C	Decreasing slope Peak-150°C	Slodering temperature 255°C-265°C
90±5 seconds	＜3°C/s	＜4°C/s	3~5s

Hand Soldering

* Keep the tip of the soldering iron clean.

Solder Iron	30W or 60W
Iron Tip Temperature	Approx. 350°C 662°F
Solder Time	Within approx. 3 seconds

* Immediate air cooling is recommended to prevent deterioration of the relay and surrounding parts due to soldering heat.
* Although the sealed type relay can be cleaned, avoid immersing the relay into cold liquid (such as washing solvent) immediately after soldering. Doing so may deteriorate the sealing performance.

Discard the dropped product