HAP01 SERIES

LATCHING RELAY

Agency Approval
Pending

File No.:R 50492934

RoHS Compliant

FEATURES

- Dielectric strength(between contact and coil):
  5000V
- 16A switching capacity

CONTACT RATINGS

Contact Arrangement	1A
Contact Resistance	≤100mΩ (1A 6VDC)
Contact Material	AgSnO
Contact Rating(Resistive)	16A 277VAC, 2×10^4(Resistive, 85°C) 600W 120VAC, 2.5×10^4(Incandescent lamp, 50°C) 8A 277VAC, 6×10^3(Standard ballast, 50°C) 5A 120VAC, 6×10^3(Electronic ballast, 40°C) 5A 240VAC, 2.5×10^4(TV-5, 40°C)
Max. Switching Voltage	277VAC
Max. Switching Current	16A
Max. Switching Power	4432VA
Mechanical Life	1×10^6 operations
Electrical Life	See more details at "safety approval ratings"

CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		≤15ms
Release time (at nomi. volt.)		≤15ms
Humidity		5 to 85% R.H.
Operation temperature		-40°C~+85°C
UL Class F		Insulation System Class F
Shock Resistance	Functional	100m/s² (half-wave pulse of sine wave:10ms, Detection time:10μs)
	Destructive	1000m/s² (half-wave pulse of sine wave:6ms)
Vibration Resistance	Functional	10Hz to 55Hz 1.5mm DA(Detection time:10μs)
	Destructive	10Hz to 55Hz 3mm DA
Unit weight		Approx. 7.7g
Construction		Flux Tight Type, Sealed Type,

Notes: The data shown above are initial values.

ORDERING INFORMATION

HAP01 F 1A 16 DC12 - 2 L - E - XXXX

- Model: HAP01
- F:Class F
- 1A=1 Form A
- 16:16A
- Coil Voltage: DC12
- 2:2 coils Blank:1 coil
- L:Latching LR:Reverse Polarity
- E:Flux Tight Type S:Sealed Type Blank:Cover Type
- Customer Code: XXXX

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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COIL DATA at 25°C

Nominal Voltage VDC	Set/Reset Voltage (Max.) VDC	*Impulse Width (Min.) ms	Coil Resistance Ω±10%		
			1 Coil	2 Coils	
				Set coil	Reset coil
3	2.4	30	45	22.5	22.5
5	4.0	30	125	62.5	62.5
6	4.8	30	180	90.0	90.0
9	7.2	30	405	202.5	202.5
12	9.6	30	720	360.0	360.0
24	19.2	30	2880	1440.0	1440.0

* For the Set time/Reset time it is recommended to use a minimum 30 ms pulse duration for the nominal coil voltage to compensate for varying ambient temperature and relay aging.

COIL

Coil Power	1 Coil: 200mW 2 Coils: 400mW

SAFETY APPROVAL RATINGS

Other agency approval (Pending)	Resistive:16A 277VAC, 85°C Resistive:5A 30VDC, 85°C Incandescent lamp:600W 120VAC, 50°C Standard ballast:8A 277VAC, 50°C Electronic ballast:5A 120VAC, 40°C TV-5:5A 240VAC, 40°C
TüV	N.O.:16A 277VAC, 85°C, 2×10^4 OPS N.O.:16A 277VAC, 60°C, 5×10^4 OPS N.O.:8A 125VAC, 85°C, 5×10^4 OPS N.O.:5A 347VAC, 85°C, 5×10^4 OPS N.O.:5A 30VDC, 85°C, 5×10^4 OPS

NOTES:

1. All values without specified temperature are at 25°C.
2. The above lists the typical loads only. Other loads may be available upon request.

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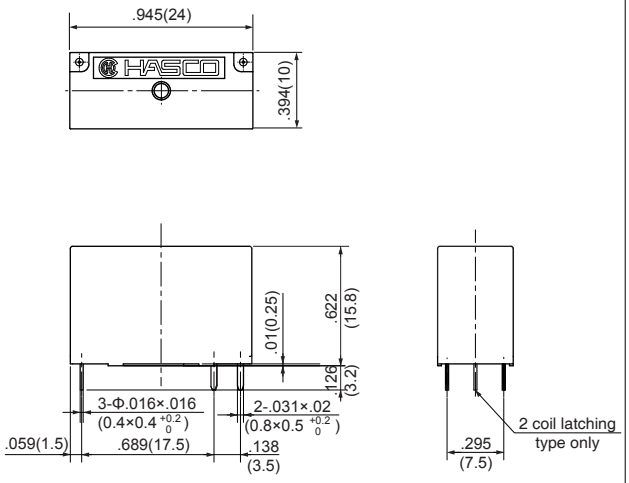
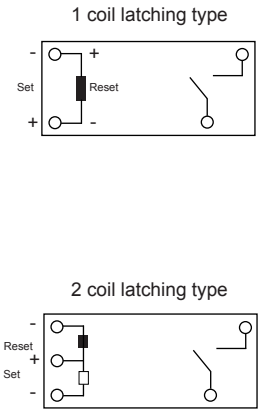
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

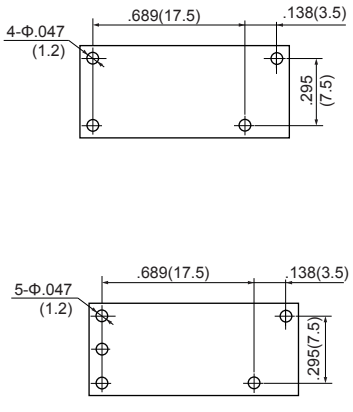
Outline Dimensions



Wiring Diagram (Bottom view)



PCB Layout (Bottom view)



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

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

Notice

1. Relay is on the “reset” or “set” status when being released form stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to “set” or “reset” status, therefore, when application (connecting the power supply), please reset the relay to “set” or “reset”status on request.
2. Do not energize voltage to “set” coil and “reset” coil simultaneously. And also long energized time (more than 1 min) should be avoided.

PACKAGING SPECIFICATION

BLISTER BOX	OUTER CARTON	OUTER CARTON SIZE
100PCS	1000PCS	L390mm*W270mm*H140mm

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