

HAT905G SERIES

POWER RELAY



File No.:E75887



File No.:R 50514896



File No.:CQC22002338071



FEATURES

- 4kVAC dielectric strength (between coil and contacts)
- Max. switching current 60A
- Compliant UL60947-4-1 5000A SCPD test
- Product in accordance to IEC 62368-1 available
- Apply to EV AC charging equipment

CONTACT RATINGS

Contact Arrangement	1A
Contact Resistance	≤50mΩ (1A 24VDC)
Contact Material	AgSnO
Contact Rating(Resistive)	60A/277VAC
Max. Switching Voltage	277VAC
Max. Switching Current	60A
Max. Switching Power	16620VA
Mechanical Life	1×10 ⁶ OPS
Electrical Life	See more details at "safety approval ratings"

CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1500VAC 1min
Surge voltage(Between coil & contacts)		6KV(1.2/50μs)
Operate time (at nomi. volt.)		≤15ms
Release time (at nomi. volt.)		≤10ms
Humidity		5%~85% RH
Operation temperature		-40°C~+105°C
UL Class F		Insulation System Class F
Shock Resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance		10Hz ~ 55Hz 1.5mm DA
Unit weight		Approx. 30g
Construction		Flux Tight Type, Sealed Type

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

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

This datasheet is for customers' reference. All the specifications are subject to change without notice.

ORDERING INFORMATION

	HAT	F	905G	A	E	DC	12	-	1	-	XXXX
Model											
F:Class F											
905G:PCB Pins Only											
A:SPST-NO											
E:Flux Tight Type(vent hole sealed)											
S:Sealed Type											
Blank:Flux Tight Type(vent hole opened)											
Coil:DC											
Coil Voltage											
Contact Gap:1=1.0mm Blank=Normal											
T:Long life & 1mm contact gap											
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 H₂S, SO₂, NO₂ or similar gaseous environment etc.



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RELAYS

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COIL DATA

at 25°C

Nominal Voltage VDC	Operate Voltage (Max.) VDC	Release Voltage (Min.) VDC	*Max. Allowable Voltage VDC	Coil Resistance $\Omega \pm 10\%$
6	4.50	0.60	7.80	30
12	9.00	1.20	15.60	120
24	18.00	2.40	31.20	480
48	36.00	4.80	62.40	1920
110	82.50	11.00	143.00	10800

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

COIL

Coil Power	1200mW
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SAFETY APPROVAL RATINGS

	Standard Type	Long Life Type
UL&CUL	60A/277VAC, 1s:9s, 40°C, 1×10 ⁴ OPS 50A/277VAC, 1s:9s, 65°C, 3×10 ⁴ OPS, GP Load 40A/277VAC, 1s:9s, 85°C, 3×10 ⁴ OPS, GP Load 32A/277VAC, 1s:9s, 105°C, 3×10 ⁴ OPS 30A/28VDC, 1s:9s, 85°C, 6×10 ³ OPS 30A/24VDC, 1s:9s, 85°C, 3×10 ⁴ OPS 2HP/250VAC, 1s:9s, 85°C, 5×10 ⁴ OPS 8A/250VAC, Tungsten, 1s:59s, 65°C, 1×10 ⁴ OPS AC-15 6A/230VAC, 1s:9s, 65°C, 1×10 ⁴ OPS 32FLA/130LRA, 250VAC, 50°C, 3×10 ⁴ OPS, DP load.	40A/277VAC, 1s:9s, 85°C, 5×10 ⁴ OPS 2HP/250VAC, 1s:9s, 85°C, 5×10 ⁴ OPS AC-15 6A/230VAC, 1s:9s, 65°C, 5×10 ⁴ OPS TV-8/277VAC, 1s:59s, 65°C, 5×10 ⁴ OPS 40A/277VAC, 1s:9s, 85°C, 3×10 ⁴ OPS, GP Load 32A/277VAC, 1s:9s, 105°C, 3×10 ⁴ OPS 30A/28VDC, 1s:9s, 85°C, 6×10 ³ OPS 30A/24VDC, 1s:9s, 85°C, 3×10 ⁴ OPS 8A/250VAC, Tungsten, 1s:59s, 65°C, 1×10 ⁴ OPS AC-15 6A/230VAC, 1s:9s, 65°C, 1×10 ⁴ OPS
TüV	60A/277VAC, 1s:9s, 40°C, 1×10 ⁴ OPS 50A/277VAC, 1s:9s, 65°C, 3×10 ⁴ OPS 40A/277VAC, 1s:9s, 85°C, 3×10 ⁴ OPS 32A/277VAC, 1s:9s, 105°C, 3×10 ⁴ OPS 30A/24VDC, 1s:9s, 85°C, 3×10 ⁴ OPS 30A/28VDC, 1s:9s, 85°C, 6×10 ³ OPS	50A/277VAC, 1s:9s, 65°C, 5×10 ⁴ OPS 40A/277VAC, 1s:9s, 85°C, 5×10 ⁴ OPS 32A/277VAC, 1s:9s, 105°C, 5×10 ⁴ OPS
CQC	60A/277VAC, 1s:9s, 40°C, 1×10 ⁴ OPS 50A/277VAC, 1s:9s, 65°C, 3×10 ⁴ OPS 40A/277VAC, 1s:9s, 85°C, 3×10 ⁴ OPS 32A/277VAC, 1s:9s, 105°C, 3×10 ⁴ OPS 30A/28VDC, 1s:9s, 85°C, 6×10 ³ OPS	50A/277VAC, 1s:9s, 65°C, 5×10 ⁴ OPS 40A/277VAC, 1s:9s, 85°C, 5×10 ⁴ OPS 32A/277VAC, 1s:9s, 105°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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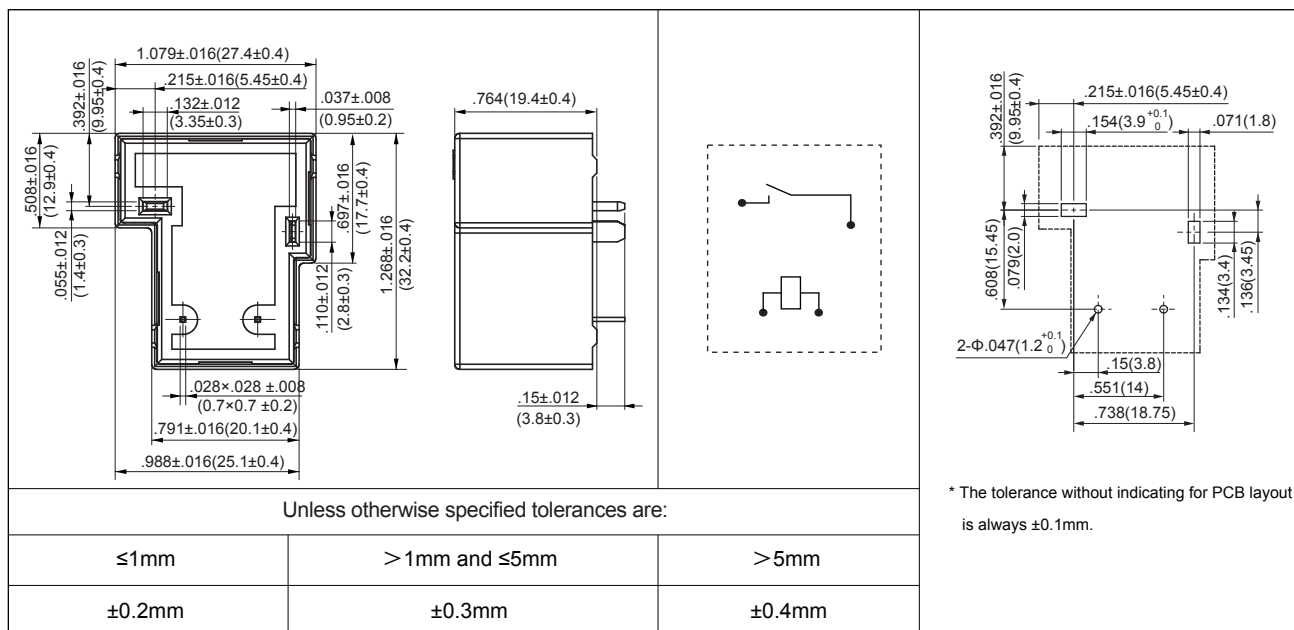
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Outline Dimensions

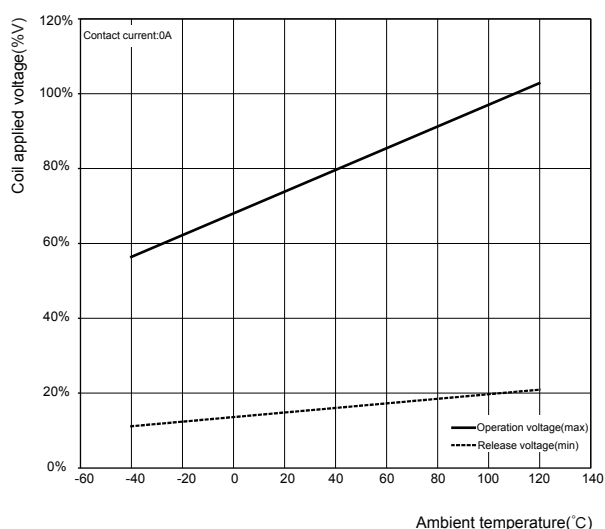
Wiring Diagram
(Bottom view)

PCB Layout
(Bottom view)

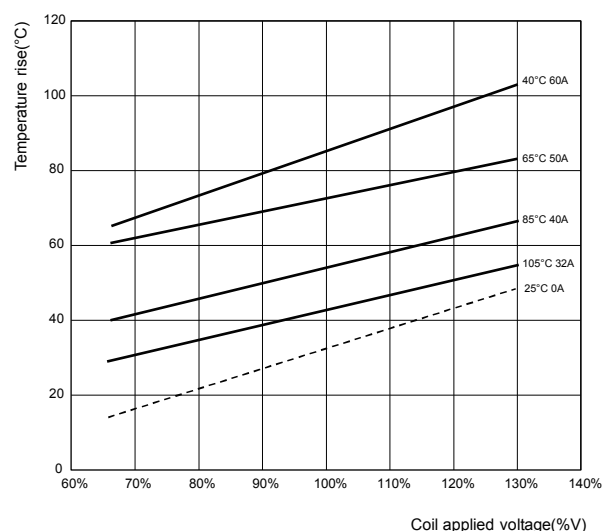


CHARACTERISTIC CURVES

AMBIENT TEMPERATURE CHARACTERISTICS
AND COIL APPLIED VOLTAGE



COIL TEMPERATURE RISE



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PACKAGING SPECIFICATION

PLASTIC TUBE	OUTER CARTON	OUTER CARTON SIZE
20PCS	500PCS	L590mm*W205mm*H175mm

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	Soldering 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

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