

# HAT905G SERIES

# POWER RELAY



File No.: R 50514896



File No.: CQC22002338071



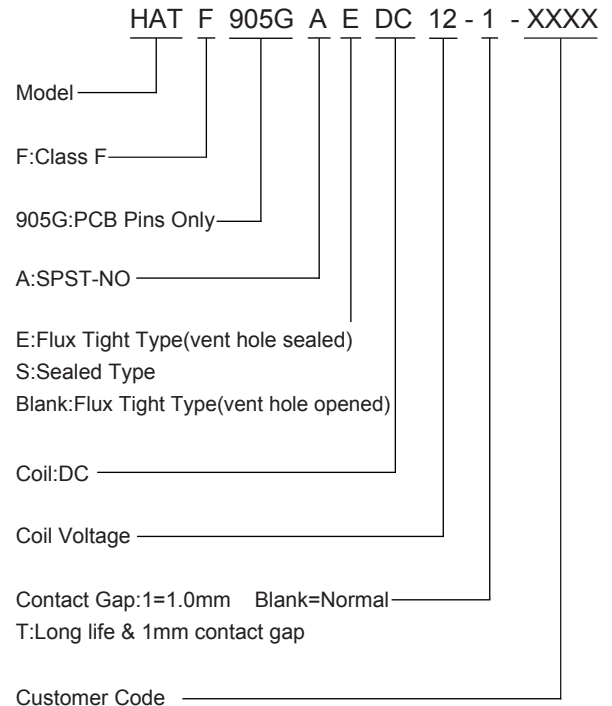
## FEATURES

- 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 <sup>6</sup> OPS
Electrical Life	See more details at "safety approval ratings"

## ORDERING INFORMATION



## 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 <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
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.**



\* SINCE 1976 \*

# RELAYS

TEL: (516) 328-9292 FAX: (516) 326-9125 www.hascorelays.com email: info@hascorelays.com

## 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 <sup>4</sup> OPS 50A/277VAC, 1s:9s, 65°C, 3×10 <sup>4</sup> OPS, GP Load 40A/277VAC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS, GP Load 32A/277VAC, 1s:9s, 105°C, 3×10 <sup>4</sup> OPS 30A/28VDC, 1s:9s, 85°C, 6×10 <sup>3</sup> OPS 30A/24VDC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS 2HP/250VAC, 1s:9s, 85°C, 5×10 <sup>4</sup> OPS 8A/250VAC, Tungsten, 1s:59s, 65°C, 1×10 <sup>4</sup> OPS AC-15 6A/230VAC, 1s:9s, 65°C, 1×10 <sup>4</sup> OPS 32FLA/130LRA, 250VAC, 50°C, 3×10 <sup>4</sup> OPS, DP load.	40A/277VAC, 1s:9s, 85°C, 5×10 <sup>4</sup> OPS 2HP/250VAC, 1s:9s, 85°C, 5×10 <sup>4</sup> OPS AC-15 6A/230VAC, 1s:9s, 65°C, 5×10 <sup>4</sup> OPS TV-8/277VAC, 1s:59s, 65°C, 5×10 <sup>4</sup> OPS 40A/277VAC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS, GP Load 32A/277VAC, 1s:9s, 105°C, 3×10 <sup>4</sup> OPS 30A/28VDC, 1s:9s, 85°C, 6×10 <sup>3</sup> OPS 30A/24VDC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS 8A/250VAC, Tungsten, 1s:59s, 65°C, 1×10 <sup>4</sup> OPS 32FLA/130LRA, 250VAC, 50°C, 3×10 <sup>4</sup> OPS, DP load.
TüV	60A/277VAC, 1s:9s, 40°C, 1×10 <sup>4</sup> OPS 50A/277VAC, 1s:9s, 65°C, 3×10 <sup>4</sup> OPS 40A/277VAC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS 32A/277VAC, 1s:9s, 105°C, 3×10 <sup>4</sup> OPS 30A/24VDC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS 30A/28VDC, 1s:9s, 85°C, 6×10 <sup>3</sup> OPS	50A/277VAC, 1s:9s, 65°C, 5×10 <sup>4</sup> OPS 40A/277VAC, 1s:9s, 85°C, 5×10 <sup>4</sup> OPS 32A/277VAC, 1s:9s, 105°C, 5×10 <sup>4</sup> OPS
CQC	60A/277VAC, 1s:9s, 40°C, 1×10 <sup>4</sup> OPS 50A/277VAC, 1s:9s, 65°C, 3×10 <sup>4</sup> OPS 40A/277VAC, 1s:9s, 85°C, 3×10 <sup>4</sup> OPS 32A/277VAC, 1s:9s, 105°C, 3×10 <sup>4</sup> OPS 30A/28VDC, 1s:9s, 85°C, 6×10 <sup>3</sup> OPS	50A/277VAC, 1s:9s, 65°C, 5×10 <sup>4</sup> OPS 40A/277VAC, 1s:9s, 85°C, 5×10 <sup>4</sup> OPS 32A/277VAC, 1s:9s, 105°C, 5×10 <sup>4</sup> OPS

### NOTES:

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

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POWER RELAY

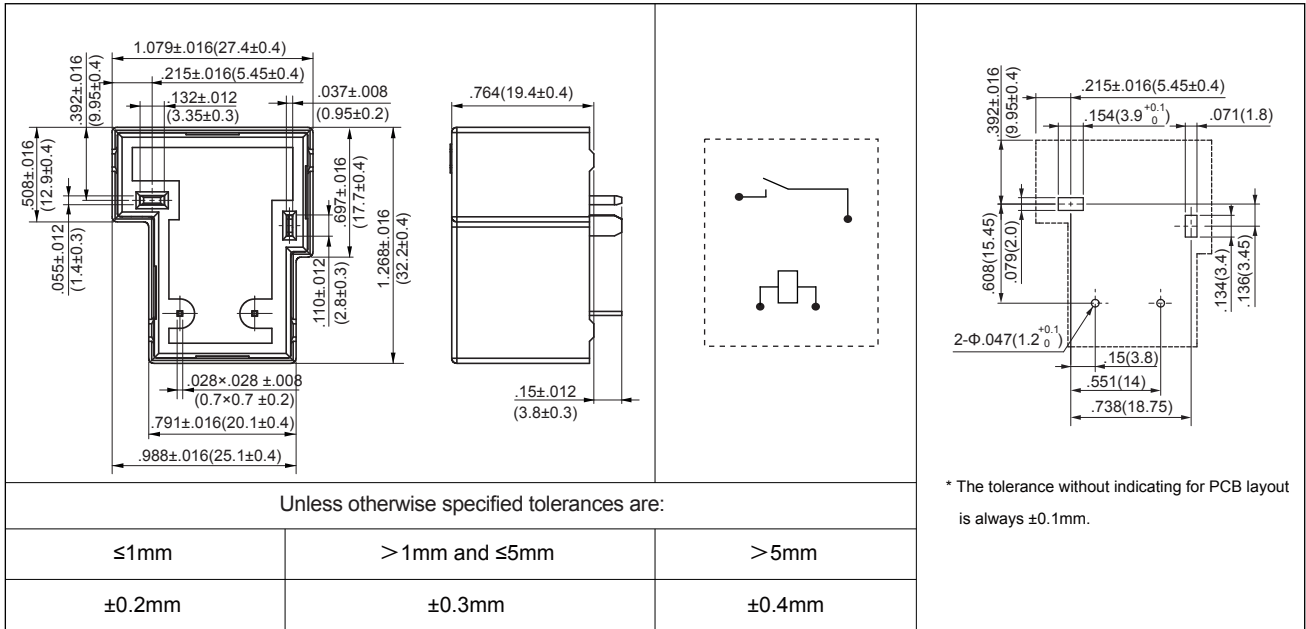
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Outline Dimensions

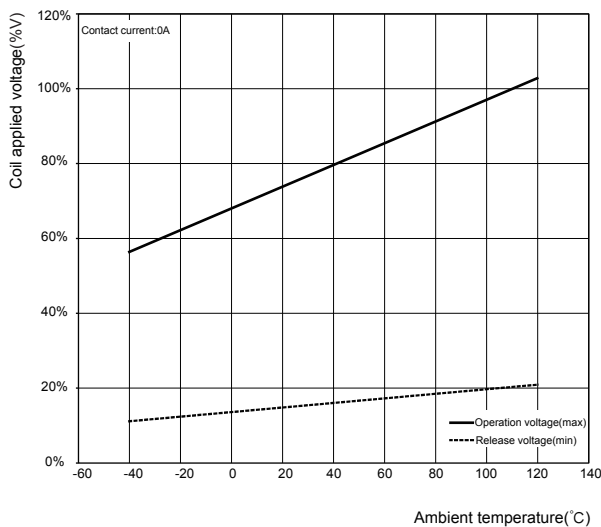
Wiring Diagram  
(Bottom view)

PCB Layout  
(Bottom view)

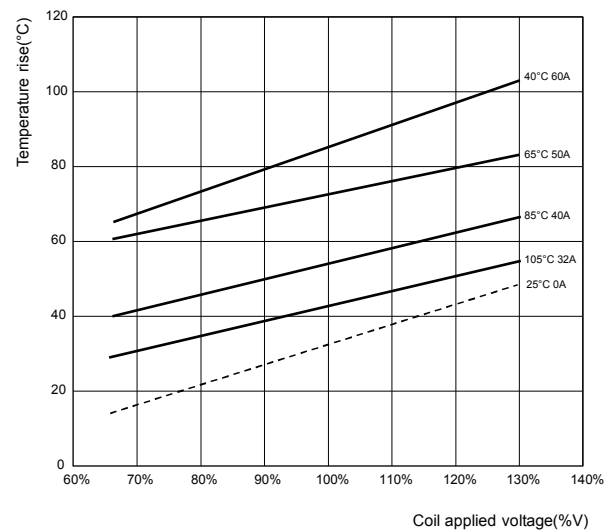


## CHARACTERISTIC CURVES

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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