

# JQX-105F-1 (HF105F-1)

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:R50050266



File No.:CQC02001001955



## Features

- 30A switching capability
- 4KV dielectric strength (between coil and contacts)
- Heavy load up to 7,200VA
- PCB coil terminals, ideal for heavy duty load
- Open, sealed & dust cover types available
- Class F insulation available
- Environmental friendly product available (RoHS compliant)
- Outline Dimensions: 32.2 x 27.0 x 20.4 mm

## CONTACT DATA

Contact arrangement	1A	1B	1C(NO)	1C (NC)
Initial contact resistance	50mΩ (at 1A 24VDC)			
Contact material	AgSnO <sub>2</sub> , AgCdO			
Max. switching capacity	7200VA/560W	3600VA/280W	4800VA/560W	2400VA/280W
Max. switching voltage	277VAC / 28VDC			
Max. switching current	30A	15A	20A	10A
JQX-105F-1 rating	30A 240VAC 20A 28VDC	15A 240VAC 10A 28VDC	20A 240VAC 20A 28VDC	10A 240VAC 10A 28VDC
JQX-105F-1L rating	25A 240VAC 20A 28VDC	15A 240VAC 10A 28VDC	20A 240VAC 20A 28VDC	10A 240VAC 10A 28VDC
Mechanical life	1 x 10 <sup>7</sup> OPS			
Electrical life	1 x 10 <sup>6</sup> OPS			

## CHARACTERISTICS

Initial insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2500/4000VAC 1min.
	Between open contacts	1500VAC 1min.
Operate time (at nomi. volt.)	Max. 15ms	
Release time (at nomi. volt.)	Max. 10ms	
Ambient temperature	Class B	DC:-55°C to +85°C AC:-55°C to +60°C
	Class F	DC:-55°C to +105°C AC:-55°C to +85°C
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10 to 55Hz 1.5mm DA	
Humidity	98% RH, +40°C	
Termination	PCB	
Unit weight	Approx. 36g	
Construction	Open (Only for 1 Form A), Sealed IP67, Dust cover	

## COIL

Coil power	DC type: 900mW; AC type: 2VA
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## SAFETY APPROVAL RATINGS

UL & CUR	1 Form A	30A 277VAC 30A 28VDC 2HP 250VAC 1HP 125VAC 277VAC(FLA=20)(LRA=60)	
		1 Form B (NC)	15A 277VAC 10A 28VDC 1/2HP 250VAC 1/4HP 125VAC 277VAC(FLA=10)(LRA=33)
	1 Form C	NO	30A 277VAC 20A 277VAC 10A 28VDC 2HP 250VAC 1HP 125VAC 277VAC(FLA=20)(LRA=60)
		NC	20A 277VAC 10A 277VAC 10A 28VDC 1/2HP 250VAC 1/4HP 125VAC 277VAC(FLA=10)(LRA=33)
	TÜV	15A 250VAC COSØ =0.4	

## COIL DATA

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max. Allowable Voltage (VDC) 25°C	Coil Resistance (Ω)
5	3.75	0.5	6.5	27 ± 10%
6	4.50	0.6	7.8	40 ± 10%
9	6.75	0.9	11.7	97 ± 10%
12	9.00	1.2	15.6	155 ± 10%
15	11.25	1.5	19.5	256 ± 10%
18	13.50	1.8	23.4	380 ± 10%
24	18.00	2.4	31.2	660 ± 10%
48	36.00	4.8	62.4	2560 ± 10%
70	52.50	7.0	91	5500 ± 10%
110	82.50	11	143	13450 ± 10%

Nominal Voltage (VAC)	Pick-up Voltage (VAC)	Drop-out Voltage (VAC)	Max. Allowable Voltage (VDC) 25°C	Coil Resistance (Ω)
12	9.6	2.4	15.6	25 ± 10%
24	19.2	4.8	31.2	100 ± 10%
120	96.0	24.0	156	2500 ± 10%
208	166.4	41	270.4	11000 ± 10%
220/240	192	48	286/312	13490 ± 10%
277	220	54	360.1	15000 ± 10%

**Notes:** When requiring pick-up voltage < 80% of nominal voltage, special order allowed.

## ORDERING INFORMATION

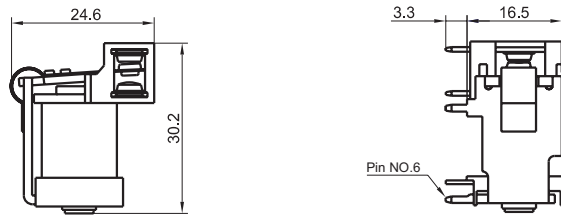
<b>JQX-105F-1 / 018 D T 1H S T F XXX</b>	
<b>Type</b>	JQX-105-1: 30A (Open, only for 1 Form A) JQX-105-1L: 25A (Open, only for 1 Form A) JQX-105F-1: 30A JQX-105F-1L: 25A
<b>Coil voltage</b>	<b>DC:</b> 5 to 110VDC <b>AC:</b> 12 to 277VAC
<b>Coil voltage form</b>	<b>D:</b> DC <b>A:</b> AC
<b>Termination</b>	<b>6 :</b> With Pin NO.6, Dielectric Strength Between Coil and Contact: 2500VAC <b>T :</b> Without Pin NO.6, Dielectric Strength Between Coil and Contact: 4000VAC <b>Nil:</b> Without Pin NO.6, Dielectric Strength Between Coil and Contact: 2500VAC
<b>Contact arrangement</b>	<b>1H:</b> 1 Form A <b>1D:</b> 1 Form B <b>1Z:</b> 1 Form C
<b>Construction</b>	<b>S:</b> Sealed IP67 <b>Nil:</b> Dust cover (For JQX-105F-1, JQX-105F-1L) Open (For JQX-105-1, JQX-105-1L)
<b>Contact material</b>	<b>T:</b> AgSnO <sub>2</sub> <b>Nil:</b> AgCdO
<b>Insulation standard</b>	<b>F:</b> Class F <b>Nil:</b> Class B
<b>Customer special code</b> (Only for special requirements)	e.g. 551 stands for RoHS compliant (Cadmium containing contacts) 555 stands for RoHS compliant (Cadmium-free contacts)

# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

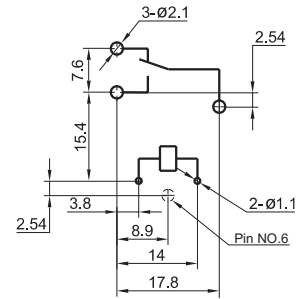
Unit: mm

## Outline Dimensions

JQX-105-1(open)

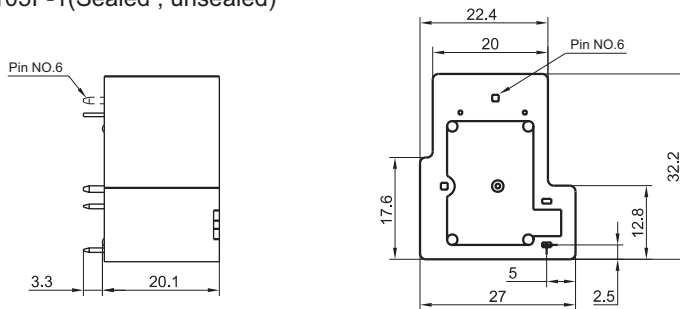


## PCB Layout



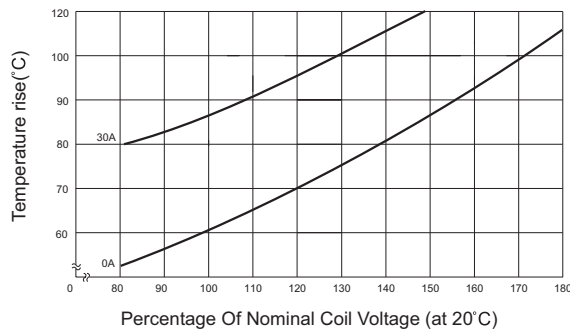
(Bottom view)

JQX-105F-1(Sealed , unsealed)

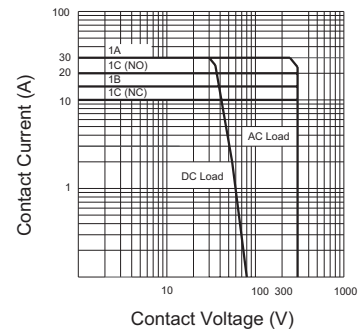


## CHARACTERISTIC CURVES

COIL TEMPERATURE RISE



MAXIMUM SWITCHING POWER



## Disclaimer

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

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.