

JQX-115F (HF115F)

MINIATURE HIGH POWER RELAY



File No.:15008



File No.:E134517



File No.:116934



File No.:CQC02001001951



Features

- Low height: 15.7 mm
- 16A switching capability
- 5KV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- VDE0435/0631/0700, CTI250
- Sealed IP67 & flux proof types available
- Environmental friendly product available (RoHS compliant)
- Outline Dimensions: 29.0 x 12.7 x 15.7 mm

CONTACT DATA

| | | |
|---------------------------------|-------------------------|------------|
| Contact arrangement | 1A, 1B, 1C | 2A, 2B, 2C |
| Initial contact resistance Max. | 50mΩ (at 1A 24VDC) | |
| Contact material | See ordering info. | |
| Contact rating (Res. load) | 12A/16A 250VAC | 8A 250VAC |
| Max. switching voltage | 440VAC / 125VDC | |
| Max. switching current | 12A / 16A | 8A |
| Max. switching power | 3000VA / 4000VA | 2000VA |
| Mechanical life | 1 x 10 ⁷ OPS | |
| Electrical life | 1 x 10 ⁵ OPS | |

CHARACTERISTICS

| | | |
|---|-------------------------|----------------------|
| Initial insulation resistance | 1000MΩ (at 500VDC) | |
| Dielectric strength | Between coil & contacts | 5000VAC 1min. |
| | Between open contacts | 1000VAC 1min. |
| | Between contact sets | 2500VAC 1min. |
| Surge voltage (between coil & contacts) | 10KV (1.2X50μs) | |
| Operate time (at nomi. volt.) | Max. 15ms | |
| Release time (at nomi. volt.) | Max. 8ms | |
| Temperature rise (at nomi. volt.) | 55°C | |
| Shock resistance | Functional | 100 m/s ² |
| | Destructive | 1000m/s ² |
| Vibration resistance | 10 to 150 Hz 10g/5g | |
| Humidity | 35 to 85% RH | |
| Ambient temperature | -40°C to +85°C | |
| Termination | PCB | |
| Unit weight | 13.5g | |
| Construction | Sealed IP67, Flux proof | |

COIL

| | |
|------------|-------|
| Coil power | 400mW |
|------------|-------|

COIL DATA

| Nominal Voltage (VDC) | Pick-up Voltage (VDC) | Drop-out Voltage (VDC) | Max. Allowable Voltage (VDC) 20°C | Coil Resistance (Ω) 20°C |
|-----------------------|-----------------------|------------------------|-----------------------------------|--------------------------|
| 5 | 3.50 | 0.5 | 7.5 | 62 ± 10% |
| 6 | 4.20 | 0.6 | 9.0 | 90 ± 10% |
| 9 | 6.30 | 0.9 | 13.5 | 202 ± 10% |
| 12 | 8.40 | 1.2 | 18 | 360 ± 10% |
| 18 | 12.60 | 1.8 | 27 | 810 ± 10% |
| 24 | 16.80 | 2.4 | 36 | 1440 ± 10% |
| 48 | 33.60 | 4.8 | 72 | 5760 ± 15% |
| 60 | 42.00 | 6.0 | 90 | 7500 ± 15% |
| 110 | 77.00 | 11.0 | 165 | 25200 ± 15% |

SAFETY APPROVAL RATINGS

| | |
|-------|---------------------|
| FIMKO | 8A 250VAC at 70 °C |
| | 12A 250VAC at 70 °C |
| | 16A 250VAC at 70 °C |

SAFETY APPROVAL RATINGS

VDE

| Contact material | Specifications | Ratings | Ambient Temperature |
|--------------------|-----------------------------------|---------------------|---------------------|
| AgCdO | JQX-115F....2(H;Z)(S)4(G)(F) | 8A 250VAC | at 70°C |
| | JQX-115F....1H(S)(1;2)(G)(F) | 12A 250VAC | at 70°C |
| | | 10A 250VAC | at 70°C |
| | JQX-115F....1Z(S)(1;2)(G)(F) | 12A 250VAC | at 70°C |
| | JQX-115F....1H(S)3(G)(F) | 16A 250VAC | at 70°C |
| | | 10A 250VAC | at 70°C |
| | | 9A 250VAC COSØ =0.4 | at 70°C |
| | JQX-115F....1Z(S)3(G)(F) | 16A 250VAC | at 70°C |
| | 9A 250VAC COSØ =0.4 | at 70°C | |
| AgNi | JQX-115F....2(H;Z)(S)4B(G)(F) | 5A 400VAC | at 85°C |
| | | 8A 250VAC | at 85°C |
| | JQX-115F....1(H;Z)(S)3B(G)(F) | 9A 250VAC COSØ =0.4 | at 70°C |
| | | 16A 250VAC | at 85°C |
| | JQX-115F....1H(S)(1;2)B(G)(F) | 12A 250VAC | at 85°C |
| | | 10A 250VAC | at 85°C |
| AgSnO ₂ | JQX-115F....1(H;Z)(S)(1;2)A(G)(F) | 12A 250VAC | at 85°C |
| | JQX-115F....1(H;Z)(S)3A(G)(F) | 16A 250VAC | at 85°C |
| | | 9A 250VAC COSØ =0.4 | at 70°C |
| | JQX-115F....2(H;Z)(S)4A(G)(F) | 8A 250VAC | at 85°C |

UL&CUR

| | |
|--------------------------------------|--------------------|
| Version 1 or 2 (AgCdO) | 12A 277VAC |
| | 1/2HP 250VAC |
| | 1/3HP 125VAC |
| Version 1 or 2 (AgSnO ₂) | 12A/ 277VAC |
| | B300 |
| | R300 |
| Version 1 or 2 (AgNi) | 12A 277VAC |
| | 16A 277 VAC |
| Version 3 (AgCdO) | 9A 250VAC at 105°C |
| | 1HP 250VAC |
| | 1/2HP 125VAC |
| | TV-5 125VAC |
| | 16A 277 VAC |
| Version 3 (AgSnO ₂) | B300 |
| | R300 |
| | 16A 277VAC |
| Version 3 (AgNi) | 10A 250VAC |
| | 8A 277VAC |
| | 1/2HP 250VAC |
| | 1/4HP 125VAC |
| Version 4 (AgSnO ₂) | 8A 277VAC |
| Version 4 (AgNi) | 8A 277VAC |

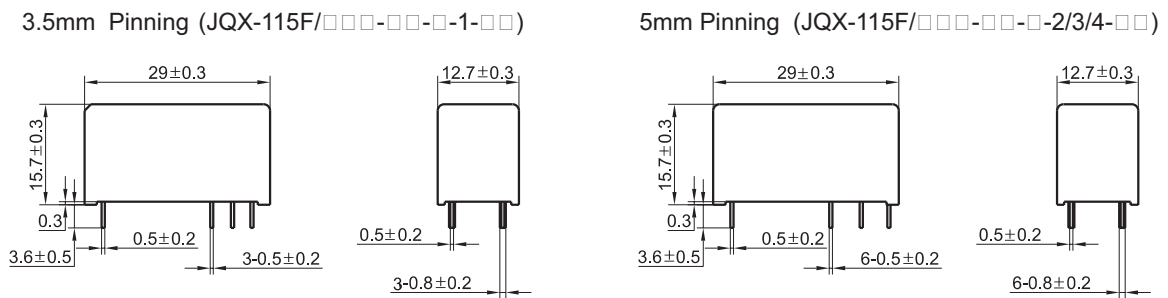
ORDERING INFORMATION

| | | |
|---|---|-------------------------------|
| Type | | JQX-115F / 012 1H S 1 A F XXX |
| Coil voltage | 5, 6, 9, 12, 18, 24, 48, 60, 110VDC | |
| Contact arrangement | 1H: 1 Form A 1D: 1 Form B 1Z: 1 Form C 2H: 2 Form A 2D: 2 Form B 2Z: 2 Form C | |
| Construction | S: Sealed IP67 Nil: Flux proof | |
| Version | 1: 3.5mm 1 pole 12A 2: 5.0mm 1 pole 12A 3: 5.0mm 1 pole 16A 4: 5.0mm 2 pole 8A | |
| Contact material | A: AgSnO ₂ B: AgNi G: AgCdO+ Au plated BG: AgNi+ Au plated Nil: AgCdO | |
| Insulation standard | F: Class F Nil: Class B | |
| Customer special code (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

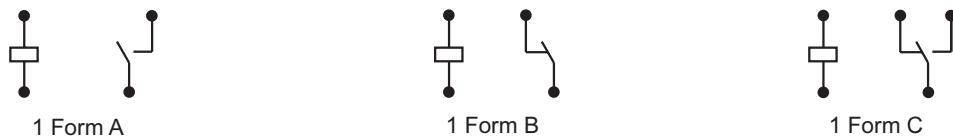
Unit: mm

Outline Dimensions

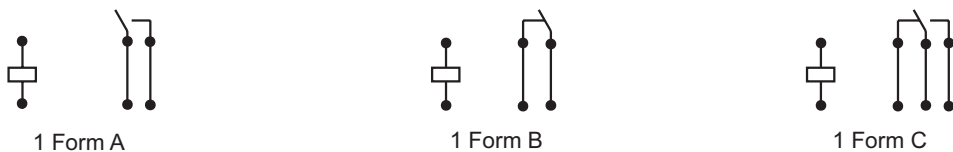


Wiring Diagram (Bottom view)

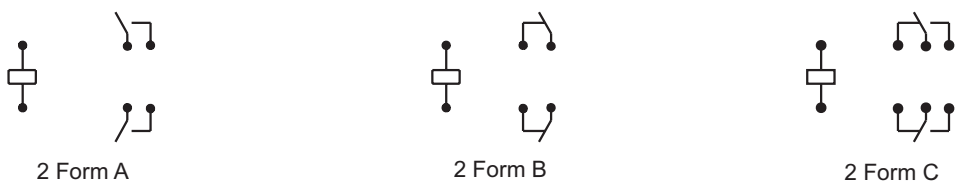
JQX-115F/ □□□□-□□□-□-1/2-□□, 3.5/5mm Pinning, 1 Pole, 12A



JQX-115F/ □□□□-□□□-□-3-□□, 5mm Pinning, 1 Pole, 16A

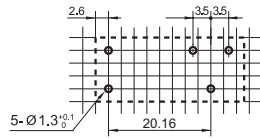


JQX-115F/ □□□□-□□□-□-4-□□, 5mm Pinning, 2 Pole, 8A

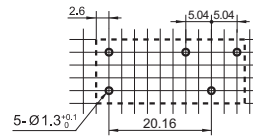


PCB Layout
(T=2.52±0.02mm)

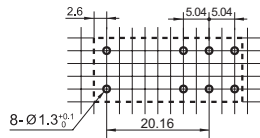
3.5mm 1 Pole 12A



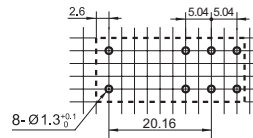
5mm 1 Pole 12A



5mm 1 Pole 16A

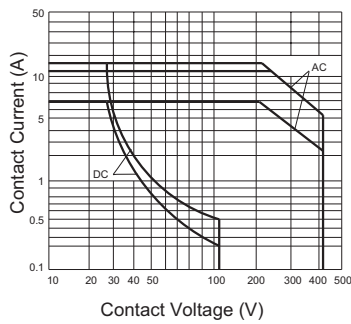


5mm 2 Pole 8A

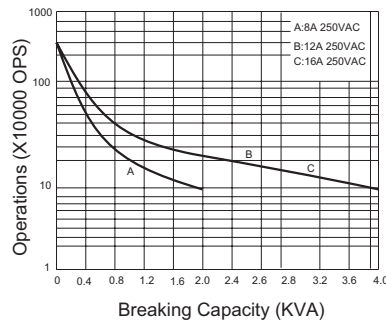


CHARACTERISTIC CURVES

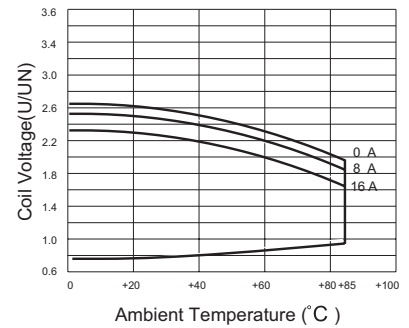
MAXIMUM SWITCHING POWER



LIFE CURVE



COIL OPERATING RANGE(DC)



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.