HF115F-S MINIATURE HIGH POWER RELAY

c UL us
File No.:E134517

VDE
File No.:116934

CQC
File No.:CQC08002028130

Features

- Special contact struction
- Incandescent lamp load: 3000W 230VAC
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 11mm
- Low height: 15.7 mm
- Meeting reinforce insulation
- Product in accordance to IEC 60335-1 available
- Plastic sealed and flux proofed types available
- UL insulation system：Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	W+$AgSnO_2$
Contact rating	Resistive:16A 250VAC Incandescent Lamp: 3000W 230VAC Inrush current: 165A / 20ms flourescent: 800A/200μs
Max. switching voltage	440VAC
Max. switching current	16A
Max. switching power	4000VA
Mechanical endurance	5 x 10^6OPS
Electrical endurance	1.2 x 10^4OPS (3000W 230VAC, Incand escentlamp load, Room temp., 1s on 59s off)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1250VAC 1min
Surge voltage (between coil & contacts)		10kV (1.2 / 50μs)
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		5ms max.
Temperature rise (at nomi. volt.)		55K max.
Shock resistance *	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance *		10Hz to 150Hz 10g
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 13.5g
Construction		Plastic sealed, Flux proofed

Notes: 1) This contact resistance value is tested under the norminal voltage.
2) * Index is not that of relay length direction.
3) The data shown above are initial values.
4) UL insulation system: Class F, Class B.

COIL

Coil power	Approx. 400mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC 1)	Coil Resistance Ω
5	3.50	0.5	7.5	62 x (1±10%)
6	4.20	0.6	9.0	90 x (1±10%)
9	6.30	0.9	13.5	202 x (1±10%)
12	8.40	1.2	18	360 x (1±10%)
18	12.6	1.8	27	810 x (1±10%)
24	16.8	2.4	36	1440 x (1±10%)
48 2)	33.6	4.8	72	5760 x (1±15%)
60 2)	42.0	6.0	90	7500 x (1±15%)
110 2)	77.0	11.0	165	25200 x (1±15%)

Notes: 1) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.
2) For products with rated voltage ≥ 48V, measures should be taken to prevent coil overvoltage in order to protect coil in test and application (eg. Connect diodes in parallel).

SAFETY APPROVAL RATINGS

VDE	16A 250VAC at 85°C
UL/CUL	16A 250VAC at 85°C Incandescent lamp 3000W 230VAC TV-8 120VAC Incandescent lamp 1200W 120VAC at 50°C Incandescent lamp 1200W 277VAC at 50°C Standard ballast 2.2A 277VAC at 50°C Electronic ballast 16A 277/120VAC 85°C Electronic ballast 12A 277/120VAC 85°C Electronic ballast 8A 277/347VAC 85°C Electronic ballast 15A 120VAC 85°C Electronic ballast 8A 277/347VAC 85°C

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.
3) Zero crossing control cooperative.

ORDERING INFORMATION

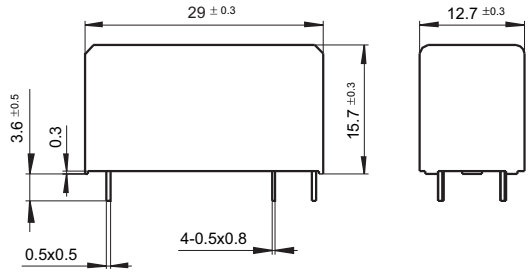
	HF115F-S /	12	-H	S	F	(XXX)
Type						
Coil voltage	5, 6, 9, 12, 18, 24, 48, 60, 110VDC					
Contact arrangement	**H:** 1 Form A					
Construction[1) 2)]	**S:** Plastic sealed	**Nil:** Flux proofed				
Insulation Standard	**F:** Class F	**Nil:** Class B				
Special code[3)]	**XXX:** Customer special requirement	**Nil:** Standard				

Notes: 1) We recommend flux proofed types for a clean environment (free from contaminations like H_2S, SO_2, NO_2, dust, etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H_2S, SO_2, NO_2, dust, etc.).
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa. e.g.(335) stands for product in accordance to IEC 60335-1 (GWT).

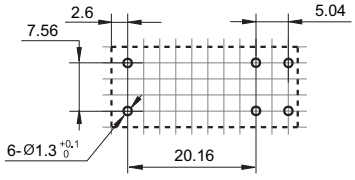
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



PCB Layout
(Bottom view)



Wiring Diagram
(Bottom view)

Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The width of the gridding is 2.52mm.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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.