HF115FD MINIATURE HIGH POWER RELAY

File No.:134517

File No.:116934

Features

- 16A switching capablility
- Low height: 15.7 mm
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- Meet reinforce insulation
- Product in accordance to IEC 60335-1 available
- Sockets available
- Class F & Class B insulation system
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	See ordering info.
Contact rating (Resistive)	12A/16A 250VAC
Max. switching voltage	440VAC / 300VDC
Max. switching current	12A / 16A
Max. switching power	3000VA / 4000VA
Mechanical endurance	1 x 10^7OPS
Electrical endurance	1 x 10^5OPS (See approval reports for more details)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Surge voltage (between coil & contacts)		10kV (1.2 x 50μs)
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		8ms max.
Temperature rise (at nomi. volt.)		55K max.
Shock resistance *	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance *		10Hz to150Hz 10g/5g
Humidity		35% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 13.5g
Construction		Flux proofed

Notes: 1) The data shown above are initial values.
2) * Index is not that of relay length direction.

COIL

Coil power	Approx. 400mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC *	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	12.60	1.8	27	810 x (1±10%)
24	16.80	2.4	36	1440 x (1±10%)
48	33.60	4.8	72	5760 x (1±15%)

Notes: * The max. allowable voltage refers to the maximum value in a varying range of pick-up voltage, not the voltage for continuous operation.

SAFETY APPROVAL RATINGS

UL/CUL	AgNi	12A 250VAC
	$AgSnO_2$	16A 250VAC
VDE	AgNi	12A 250VAC at 85°C
	$AgSnO_2$	16A 250VAC at 85°C

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

ORDERING INFORMATION

HF115FD /	012	-1H	3	A	F	(XXX)

Type

Coil voltage 5, 6, 12, 18, 24, 48VDC

Contact arrangement **1H:** 1 Form A **1Z:** 1 Form C

Version **1:** 3.5mm 1 pole 12A **2:** 5.0mm 1 pole 12A **3:** 5.0mm 1 pole 16A

Contact material **A:** $AgSnO_2$ **B:** AgNi

Insulation standard **F:** Class F **Nil:** Class B

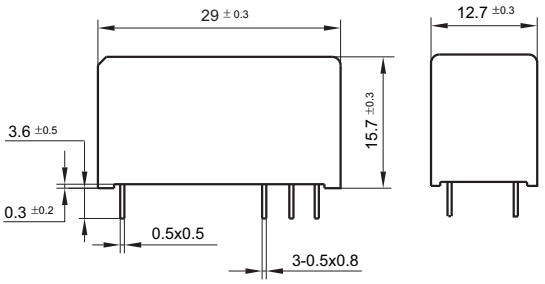
Customer special code

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

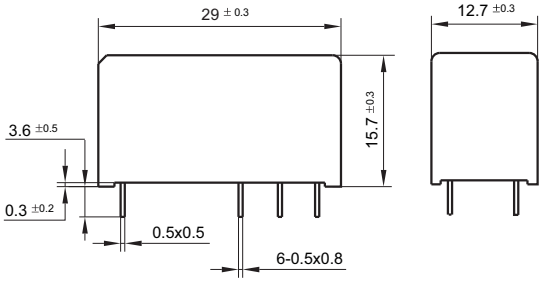
Unit: mm

Outline Dimensions

3.5mm Pinning (HF115FD/ □□□ -□□ -1-□)

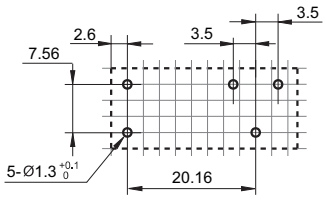


5mm Pinning (HF115FD/ □□□ -□□-2/3-□)

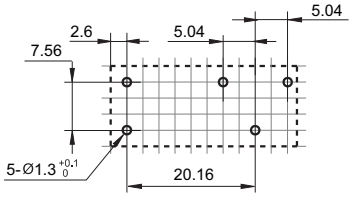


PCB Layout (Bottom view)

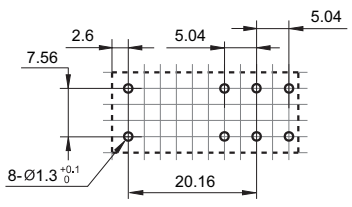
3.5mm Pinning, 1 Pole



5mm Pinning, 1 Pole



5mm Pinning, 1 Pole



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Wiring Diagram (Bottom view)

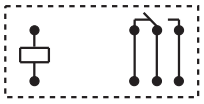
3.5/5mm Pinning, 1 Pole, 12A, HF115FD/ □□□ -□□ -□ -1/2 -□

1 Form A

1 Form C

5mm Pinning, 1 Pole, 16A, HF115FD/ □□□ -□□ -□ -3 -□

1 Form A

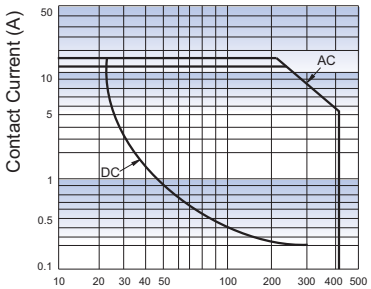


1 Form C

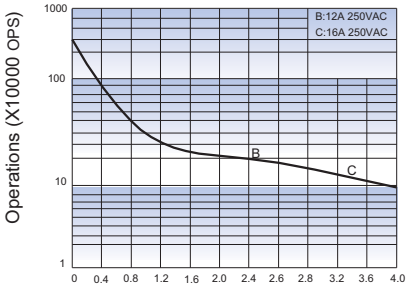
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The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

CHARACTERISTIC CURVES

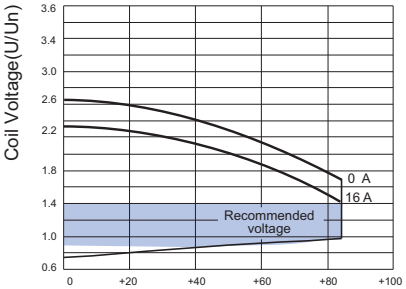
MAXIMUM SWITCHING POWER



ENDURANCE 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.