HF7FD (JQC-7FD) SUBMINIATURE HIGH POWER RELAY

c UL us
File No.:E133481

VDE
File No.: 40008374

Features

- 12A switching capability
- High performance, Low profile
- 2kV dielectric strength (between coil and contacts)
- VDE 0631 / 0700
- UL94, V-0, CTI250 flammability class
- 1 Form A and 1 Form C configurations
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (22.5 x 16.5 x 16.5) mm

CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ (at 1A 24VDC)	
Contact material	$AgSnO_2$, AgCdO	
Contact rating (Res. load)	10A 250VAC	12A 125VAC NO: 10A 250VAC NC: 7A 250VAC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	10A	
Max. switching power	2500VA / 300W	2500VA / 210W
Mechanical endurance	1×10^7 OPS	
Electrical endurance	1×10^5 OPS	

CHARACTERISTICS

Insulation resistance		100MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	2500VAC 1sec 2000VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		5ms max.
Humidity		35% to 85% RH
Shock resistance	Functional	100m/s²(10g)
	Destructive	1000m/s²(100g)
Ambient temperature		-40°C to 85°C
Vibration resistance		10Hz to 55Hz 1.5mm DA
Termination		PCB
Unit weight		Approx. 14g
Construction		Wash tight, Flux proofed

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	360mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.30	0.3	3.9	25 x (1±10%)
5	3.80	0.5	6.5	70 x (1±10%)
6	4.50	0.6	7.8	100 x (1±10%)
9	6.80	0.9	11.7	225 x (1±10%)
12	9.00	1.2	15.6	400 x (1±10%)
18	13.5	1.8	23.4	900 x (1±10%)
24	18.0	2.4	31.2	1600 x (1±15%)
48	36.0	4.8	62.4	6400 x (1±15%)

SAFETY APPROVAL RATINGS

UL&CUR	1 Form A	10A 277VAC 10A 28VDC
	1 Form C	12A 125VAC 7A 250VAC 7A 28VDC
VDE	1 Form A	10A 250VAC
	1 Form C	7A 250VAC

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

ORDERING INFORMATION

	HF7FD /	012	-1H	S	T	F	(XXX)
Type [1]	HF7FD JQC-7FD (Old type)						
Coil voltage	5, 6, 9, 12, 18, 24, 48VDC						
Contact arrangement	**1H**: 1 Form A	**1Z**: 1 Form C					
Construction [2]	**S**: Wash tight	**Nil**: Flux proofed					
Contact material	**T**: $AgSnO_2$	**Nil**: AgCdO					
Insutation standard	**F**: Class F	**Nil**: Class B					
Customer special code [3] (Only for special requirements)	e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (555) stands for RoHS compliant (Cadmium-free contacts)						

Notes: 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

2) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

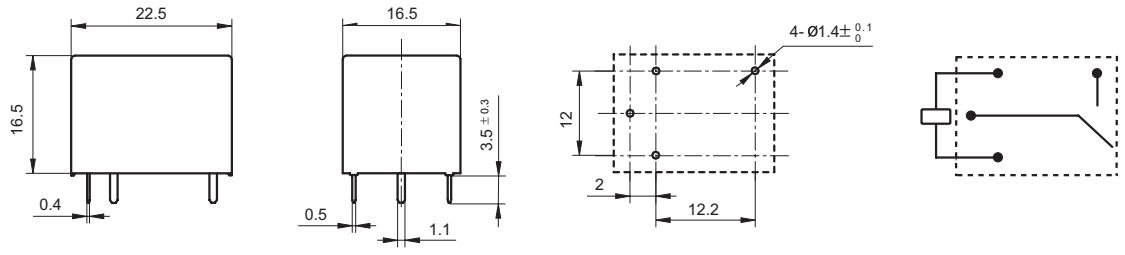
3) HF7FD is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

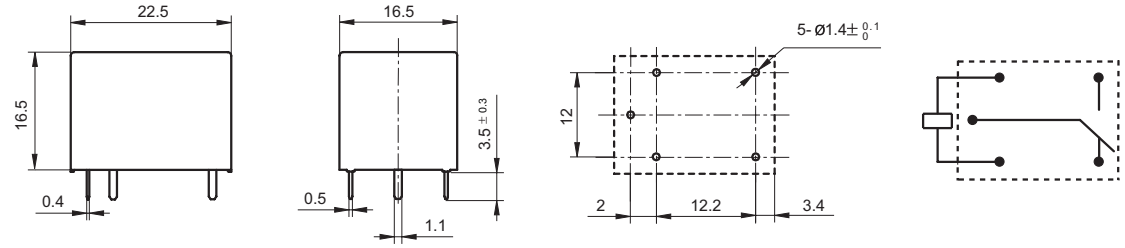
Unit: mm

Outline Dimensions | PCB Layout (Bottom view) | Wiring Diagram (Bottom View)

1 Form A



1 Form C

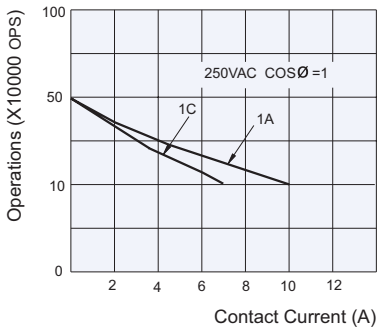


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

ENDURANCE CURVE



COIL TEMPERATURE RISE