HF3FF (JQC-3FF) SUBMINIATURE HIGH POWER RELAY

c UL us
File No.:E134517

File No.:R50034671

CQC
File No.:CQC02001001953

Features

- 15A switching capability
- Extremely low cost
- 1 From A and 1 From C configurations
- Subminiature, standard PCB layout
- Wash tight and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (19.0 x 15.2 x 15.5) mm

CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	$AgSnO_2$, AgCdO	
Contact rating (Res. load)	10A 277VAC/28VDC	
Max. switching voltage	277VAC / 30VDC	
Max. switching current	15A	10A
Max. switching power	2770VA / 210W	
Mechanical endurance	1 x 10^7OPS	
Electrical endurance	1 x 10^5OPS	

CHARACTERISTICS

Insulation resistance		100MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		5ms max.
Shock resistance	Functional	100m/s² (10g)
	Destructive	1000m/s² (100g)
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		35% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 10g
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	5 to 24VDC: 360mW; 48VDC: 510mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
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±10%)
48	36.0	4.8	62.4	4500 x (1±10%)
48 [1)]	36.0	4.8	62.4	6400 x (1±10%)

Notes: 1) When order this 48VDC type, Please mark a special code (068).

SAFETY APPROVAL RATINGS

UL&CUR	1 Form A	10A 277VAC
		TV-5 120VAC
		15A 125VAC
		120VAC 125VAC
		1/2hp,125VAC
	1 Form C	10A 277 VAC
		10A 120VAC
		1/2 HP 125/250VAC
TÜV	1 Form A	10A 277VAC
		12A 125VAC COSØ =1
		5A 250VAC COSØ =1
	1 Form C	8A 250VAC
		12A 125VAC COSØ =1
		5A 250VAC COSØ =1

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

ORDERING INFORMATION

HF3FF / 012 -1H S T F (XXX)

Type [1]	HF3FF JQC-3FF (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
Insulation 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)	

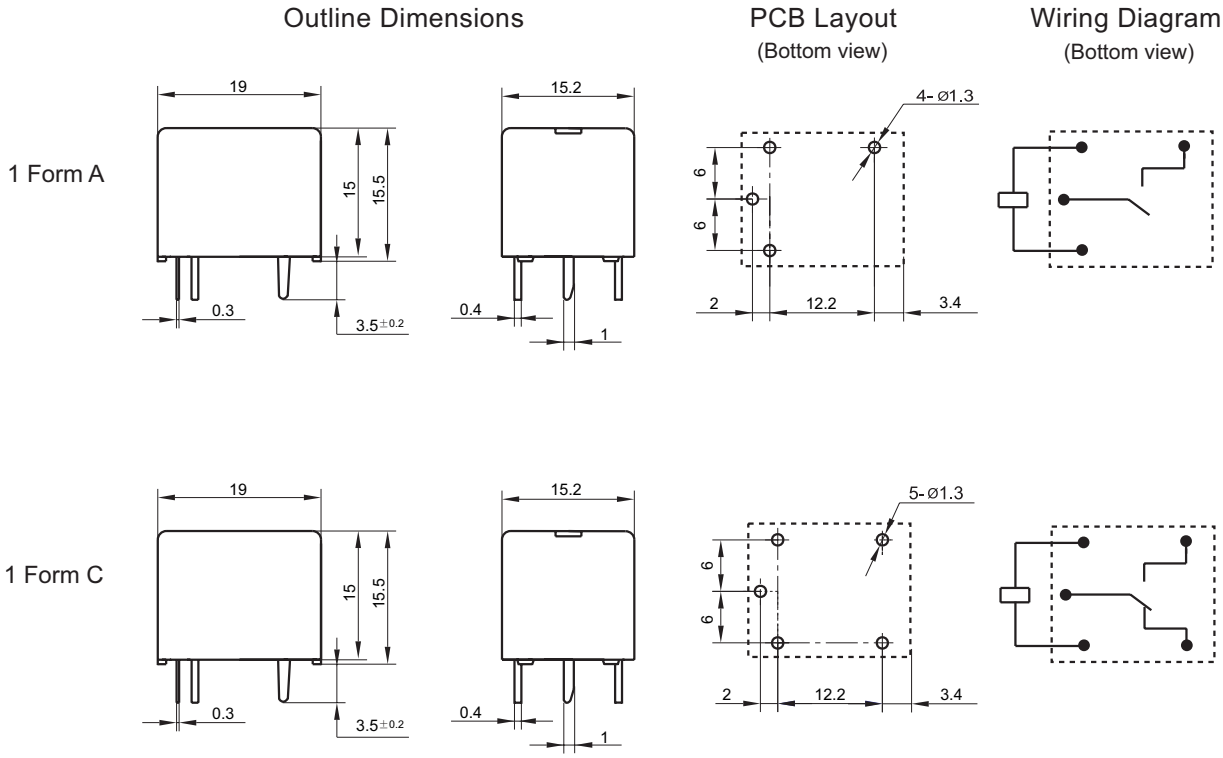
Notes: 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

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) HF3FF 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

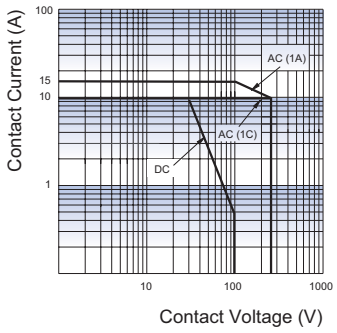


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

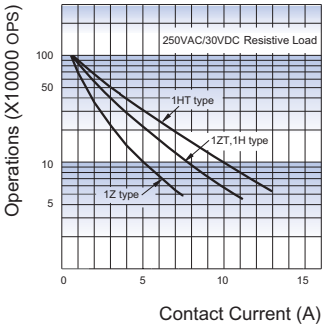
2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE