HF32FA SUBMINIATURE INTERMEDIATE POWER RELAY

c UL us
File No.:E134517

File No.:40006182

CQC
File No.:CQC09002028689

Features

- 5A switching capability
- Creepage/clearance distance>8mm
- 5kV dielectric strength (between coil and contacts)
- 1 Form A meets VDE 0700, 0631 reinforce insulation
- 1 Form C meets VDE 0631 reinforce insulation
- UL insulation system: Class F
- Product in accordance to IEC 60335-1 available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (17.6 x 10.1 x 12.3) mm

CONTACT DATA

Contact arrangement	1A, 1C	
Contact resistance	70mΩ max.(at 1A 6VDC)	
Contact material	AgNi	
Contact rating (Res. Load)	1A	1C
	Standard /Sensitive	Standard
	5A 250VAC 5A 30VDC	3A 250VAC 3A 30VDC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	5A	
Max. switching power	1250VA / 150W	
Mechanical endurance	1 x 10^6OPS	
Electrical endurance	1 x 10^5OPS	

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		8ms max.
Release time (at nomi. volt.)		4ms max.
Humidity		5% to 85% RH
Ambient temperature		-40˚C to 85˚C
Shock resistance	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance		10Hz to 55 Hz 1.65mm DA
Termination		PCB
Unit weight		Approx.4.6g
Construction		Plastic sealed, Flux proofed

Notes: 1) The vibration resistance should be 0.6mm,10Hz to 55Hz for NC contact. Along with the length direction.
2) The data shown above are initial values.
3) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	Sensitive: Approx. 200mW; Standard: Approx. 450mW

COIL DATA at 23˚C

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.15	3.9	20 x (1±10%)
5	3.75	0.25	6.5	55 x (1±10%)
6	4.50	0.30	7.8	80 x (1±10%)
9	6.75	0.45	11.7	180 x (1±10%)
12	9.00	0.60	15.6	320 x (1±10%)
18	13.5	0.90	23.4	720 x (1±10%)
24	18.0	1.20	31.2	1280 x (1±10%)
48	36.0	2.40	62.4	5120 x (1±10%)

Sensitive type (Only for 1 Form A)

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.15	5.1	45 x (1±10%)
5	3.75	0.25	8.5	125 x (1±10%)
6	4.50	0.30	10.2	180 x (1±10%)
9	6.75	0.45	15.3	400 x (1±10%)
12	9.00	0.60	20.4	720 x (1±10%)
18	13.5	0.90	30.6	1600 x (1±10%)
24	18.0	1.20	40.8	2800 x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	1 Form A	5A 250VAC at 85˚C 5A 30VDC at 85˚C 1/8HP 125VAC/250VAC at 85˚C TV-2 at 85˚C C300 at 85˚C
	1 Form C	3A 250VAC at 85˚C 3A 30VDC at 85˚C
VDE		5A 250VAC at 85˚C 2A 250VAC cosø=0.5 at 85˚C 1 Form A, Sensitive: 3A 400VAC at 85˚C

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

HONGFA RELAY
ISO9001, ISO/TS16949 , ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED 2012 Rev. 1.01

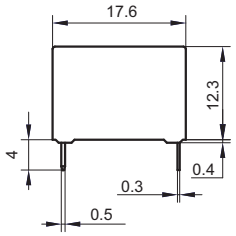
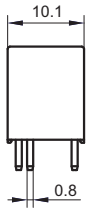
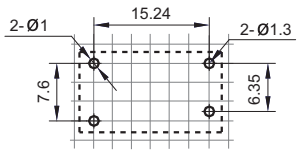
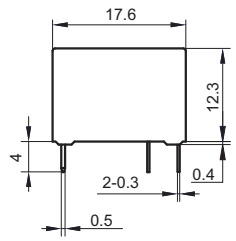
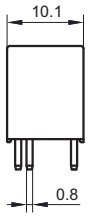
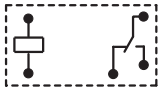
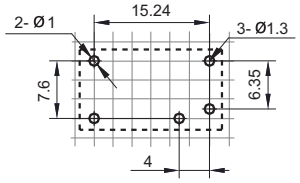
ORDERING INFORMATION

	HF32FA /	012	-H	S	L	1	G	(XXX)
Type								
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC							
Contact arrangement	**H:** 1 Form A **Z:** 1 Form C							
Construction [1]	**S:** Plastic sealed **Nil:** Flux proofed							
Coil power	**L:** Sensitive (Only for 1 Form A) **Nil:** Standard							
Termination	**1:** Type 1 **2:** Type 2							
Contact plating [2]	**G:** Gold plated **Nil:** No gold plated							
Customer special code	e.g. (335) stands for product in accordance to IEC 60335-1 (GWT)							

Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications. If the ambience allows, flux proofed type is preferentially recommended.
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.
2) For gold plated type, the min. switching current and min. switching voltage is 10mA 5VDC.

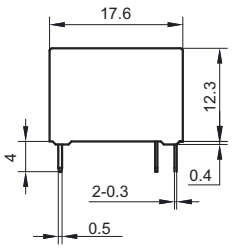
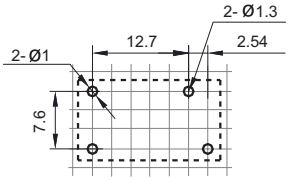
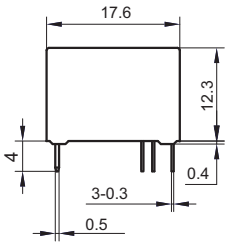
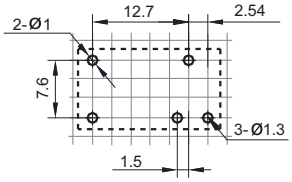
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

	Outline Dimensions		Wiring Diagram (Bottom view)	PCB Layout (Bottom view)
1 Form A & Type 1				
1 Form C & Type 1				

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

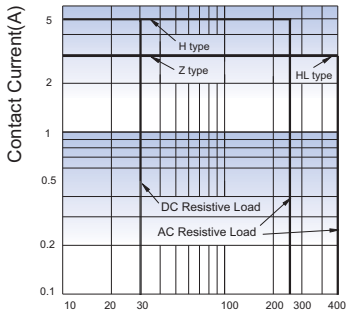
Unit: mm

	Outline Dimensions	Wiring Diagram (Bottom view)	PCB Layout (Bottom view)
1 Form A & Type 2			
1 Form C & Type 2			

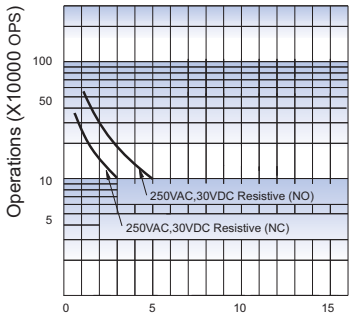
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The width of the gridding is 2.54mm.

CHARACTERISTIC CURVES

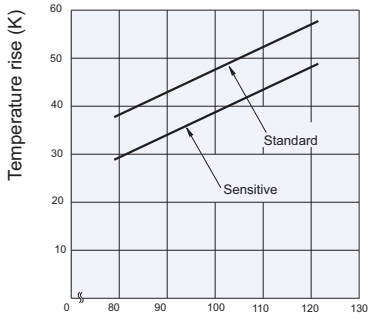
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



TEMPERATURE RISE



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.