

HF32FV-16

SUBMINIATURE HIGH POWER RELAY



File No.: E134517



File No.: 40012204



File No.: CQC14002120720



Features

- 16A switching capability
- Dielectric strength 4kV(between coil and contacts)
- 1 Form A configuration
- UL insulation system: Class F
- Product in accordance to IEC 62368-1 available
- Products which coincident with TV-8 products are available

CONTACT DATA

Contact arrangement	1H
Contact resistance ¹⁾	≤ 100mΩ (at 1A 6VDC)
Contact material	AgSnO ₂
Contact rating(General use)	16A 250VAC TV-8 TV-5
Max. switching voltage	250VAC
Max. switching current	16A
Max. switching power	4000VA
Mechanical endurance	5 x 10 ⁶ OPS
Electrical endurance	Standard type: 1 x 10 ⁴ OPS(16A 250VAC General use, 85°C, 1s on 9s off) 5 x 10 ⁴ OPS(16A 250VAC Resistive load, 85°C, 1s on 9s off) Sensitive type:(‘590’ special code) 5 x 10 ⁴ OPS(16A 250VAC,Resistive load, 85°C, 1s on 9s off) TV-8 Super Sensitive type: (‘590’ special code)5 x 10 ⁴ OPS (16A 250VAC Resistive load, 85°C, 1s on 9s off) TV-5 Super Sensitive type: 5 x 10 ⁴ OPS(16A 250VAC Resistive load, 85°C, 1s on 9s off)

Notes:1) The data shown above are initial values.

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Humidity	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 7g	
Construction	Flux proofed	

Notes:1) The data shown above are initial values.

COIL

Coil power	Standard:Approx. 800mW
	Sensitive type:Approx.400mW
	Super sensitive type:Approx.200mW

COIL DATA

at 23°C

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC max. ¹⁾	Drop-out Voltage VDC min. ¹⁾	Max. Voltage VDC *2)	Coil Resistance Ω
12	≤9	≥1.2	13.2	180 x (1±10%)
24	≤18	≥2.4	26.4	720 x (1±10%)

Sensitive type/Super sensitive type

Nominal Voltage VDC	Pick-up Voltage VDC max. ¹⁾	Drop-out Voltage VDC min. ¹⁾	Max. Voltage VDC *2)	Coil Resistance Ω	
				Sensitivel Type Ω	Super Sensitivel Type Ω
3	≤2.25	≥0.3	3.9	22 x (1±10%)	45 x (1±10%)
5	≤3.75	≥0.5	6.5	62 x (1±10%)	125 x (1±10%)
6	≤4.5	≥0.6	7.8	90 x (1±10%)	180 x (1±10%)
9	≤6.75	≥0.9	11.7	202x (1±10%)	400 x (1±10%)
12	≤9	≥1.2	15.6	360x(1±10%)	720x (1±10%)
18	≤13.5	≥1.8	23.4	810x(1±10%)	1600x(1±10%)
24	≤18	≥2.4	31.2	1440x(1±10%)	2800x(1±10%)
48	≤36	≥4.8	62.4	5760x(1±10%)	11520x(1±10%)

Notes: 1) The data shown above are initial values.

2) *Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

3) When using standard products,it needs to drive at rated voltage,and then step down the voltage(50% of rated voltage) to hold.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2020 Rev. 1.00

SAFETY APPROVAL RATINGS

UL/CUL	1 Form A	16A 250VAC at 85°C Standard type 16A 250VAC at 85°C (Sensitive) 16A 250VAC at 85°C (Super Sensitive) TV-5 120VAC Standard type/Super Sensitive '590' special code type TV-8 120VAC '590' special code (Sensitive) 1000W Incandescent '590' special code (Sensitive) Electronic Ballast 5A 120VAC '590' special code (Sensitive) 1/2HP 120VAC at 85°C '590' special code (Sensitive) 1HP 250VAC at 85°C '590' special code (Sensitive) Electronic Ballast 3A 120VAC '590' special code (Super Sensitive) 1/3HP 120VAC at 85°C (Super Sensitive) 3/4HP 250VAC at 85°C (Super Sensitive)
VDE	1 Form A	16A 250VAC at 85°C Standard type 16A 250VAC at 85°C (Sensitive)
CQC	1 Form A	16A 250VAC 85°C Standard type 16A 250VAC 85°C (Sensitive) 16A 250VAC 85°C (Super Sensitive)

Notes: 1) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

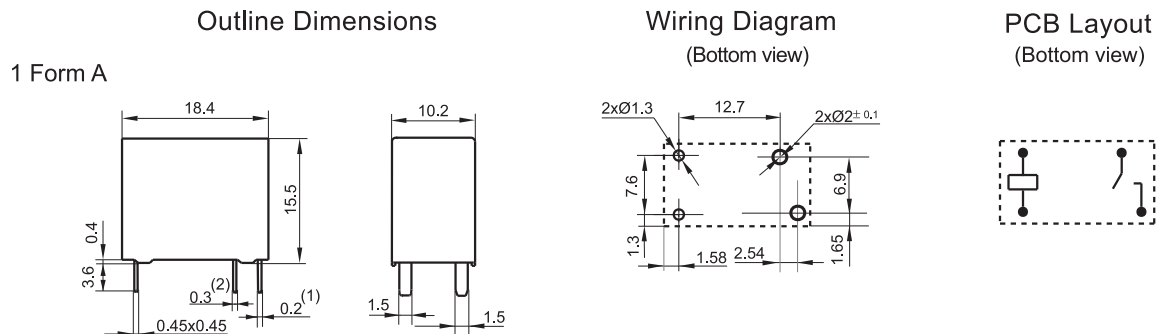
Type	HF32FV-16/	12	-H	L ¹⁾	T	F	(XXX)
Coil voltage¹⁾	3, 5, 6, 9, 12, 18, 24, 48VDC						
Contact arrangement	H: 1 Form A						
Coil power	L: Sensitive C: Super Sensitive Nil: Standard						
Contact material	T: AgSnO ₂						
Insulation standard	F: Class F						
Special code²⁾	XXX: Customer special requirement			Nil: Standard			

Notes: 1) 3, 5, 6, 9, 18, 48VDC are only applicable to sensitive and super sensitive products.

2) The customer special requirement express as special code after evaluating by Hongfa. For example, '590' sensitive indicates the products satisfy with TV-8 load, '590' super sensitive indicates the products satisfy with TV-5 load.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



Remark: 1) The size of '590' special code (Sensitive) is 0.4mm, The size of '590' special code (Super Sensitive) is 0.3mm.

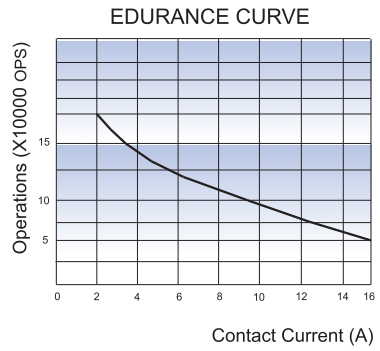
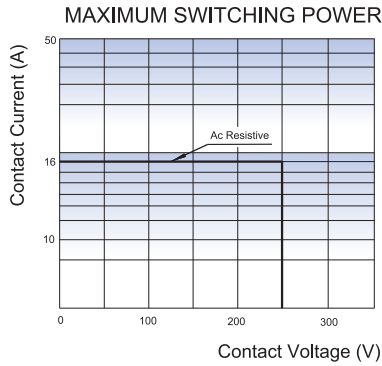
2) The size of '590' special code (Super Sensitive) is 0.22mm.

3) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.

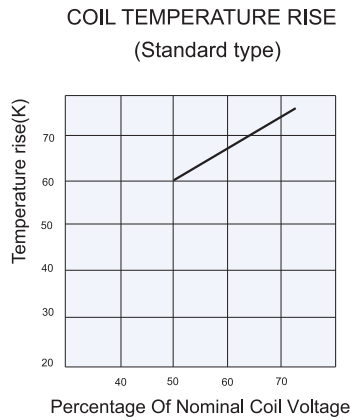
4) In case of no tolerance shown in outline dimension: outline dimension ≤ 1mm, tolerance should be ±0.2mm; outline dimension > 1mm and ≤ 5mm, tolerance should be ±0.3mm; outline dimension > 5mm, tolerance should be ±0.4mm.

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

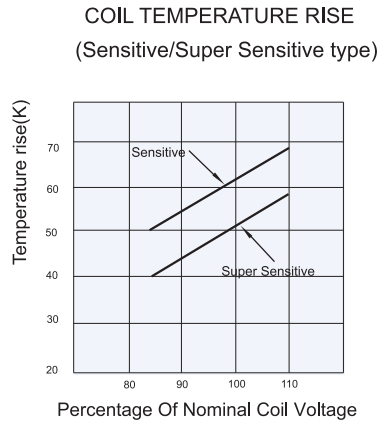
CHARACTERISTIC CURVES



Test conditions: Resistive load, 250VAC
85°C, 1s on 9s off



Test conditions: 85°C 16A
Mounting distance: 10mm
Driving voltage: Coil activated with rated voltage, then reduce to 50% of rated voltage.



Test conditions: 85°C 16A
Mounting distance: 10mm

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.

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