

HF32FV-G

SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:40012204



File No.:CQC14002120720



Features

- 10A switching capability
- Creepage distance: 6.5mm (between coil & contacts)
- Dielectric strength 4kV (between coil and contacts)
- 1 Form A configurations
- Standard PCB layout
- Plastic sealed and flux proofed types available
- Product in accordance to IEC60335-1 available
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (18.4 x 10.2 x 15.3) mm

CONTACT DATA

Contact arrangement	1A	
Contact resistance	100mΩ max.(at 1A 6VDC)	
Contact material	AgSnO ₂ , AgCdO	
Contact rating (Res. load)	Standard	Sensitive
	10A 250VAC 10A 30VDC	8A 250VAC 8A 30VDC
Max. switching voltager	277VAC / 30VDC	
Max. switching current	10A	8A
Max. switching power	2500VA/300W	2000VA/ 240W
Mechanical endurance	1 x 10 ⁷ OPS	
Electrical endurance	Standard	1 x 10 ⁵ OPS (10A 250VAC Resistive load, at room temp., 1s on 9s off) 5 x 10 ⁴ OPS (10A 250VAC Resistive load, at 85°C, 1s on 9s off)
	Sensitive	1 x 10 ⁵ OPS (8A 250VAC Resistive load, at room temp., 1s on 9s off) 5 x 10 ⁴ OPS (8A 250VAC Resistive load, at 85°C, 1s on 9s off)

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
Surge withstand voltage	6kV(1.2 / 50μs)	
Operate time (at nomi. volt.)	8ms max.	
Release time (at nomi. volt.)	5ms max.	
Coil temperature rise(at nomi. volt.)	70k max.	
Shock * resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance *	Functional	10Hz to 55Hz 1.5mm DA
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 6g	
Construction	Plastic sealed, Flux proofed	

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

2) *Index is not in relay length direction.

3) In order to obtain better electrical endurance, it's better not use this product in the high temperature environment.

COIL

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

COIL DATA

at 23°C

Standard Type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. 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

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.25	0.15	4.5	45 x (1±10%)
5	3.75	0.25	7.5	125 x (1±10%)
6	4.50	0.30	9.0	180 x (1±10%)
9	6.75	0.45	13.5	400 x (1±10%)
12	9.00	0.60	18.0	720 x (1±10%)
18	13.5	0.90	27.0	1600 x (1±10%)
24	18.0	1.20	36.0	2800 x (1±10%)
48	36.0	2.40	72.0	11520 x (1±10%)

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



HONGFA RELAY

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

2017 Rev. 1.00

SAFETY APPROVAL RATINGS

UL/CUL	AgSnO ₂	10A 277VAC /250VAC Resistive at 40°C 10A 277VAC/250VAC Resistive at 85°C 8A 277VAC/250VAC General Use (Sensitive) at 85°C TV-5 120VAC 40°C TV-3 120VAC(Sensitive) at 40°C
	AgCdO	10A 277VAC/250VAC General Use at 85°C 10A 30VDC Resistive at 85°C 10A 277VAC /250VAC Resistive at 105°C 10A 277VAC/250VAC Resistive at 45°C 8A 277VAC/250VAC Resistive (Sensitive) at 85°C
VDE	AgSnO ₂	10A 277VAC/250VAC Resistive at 85°C 8A 277VAC/250VAC Resistive(Sensitive) at 85°C
	AgCdO	10A 277VAC/250VAC Resistive at 85°C
CQC	AgSnO ₂	10A 277VAC/250VAC Resistive at 85°C 8A 277VAC/250VAC Resistive (Sensitive) at 85°C
	AgCdO	10A 277VAC/250VAC Resistive at 85°C

- Notes:** 1) Opening the vent hole under contact material AgSnO₂ testing.
2) All values unspecified are at room temperature.
3) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

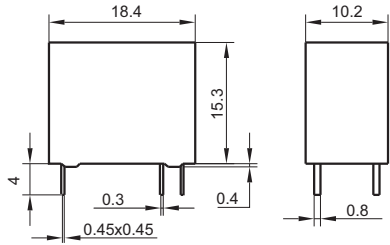
Type	HF32FV-G / 12 -H S L T F G (XXX)
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	H: 1 Form A
Construction ¹⁾²⁾	S: Plastic sealed Nil: Flux proofed
Coil power	L: Sensitive ³⁾ Nil: Standard
Contact material	T: AgSnO ₂ Nil: AgCdO
Insulation standard	F: Class F
Contact plating ⁴⁾	G: Gold plated Nil: No gold plated
Special code ⁵⁾	XXX: Customer special requirement Nil: Standard

- Notes:** 1) We recommend flux proofed types for a clean environment (free from contaminations like H₂S, SO₂, NO₂, dust, etc.).
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) Sensitive loading: 8A.
4) For gold plated type, the min. switching current and min. switching voltage is 10mA 5VDC.
5) The customer special requirement express as special code after evaluating by Hongfa. e.g. (335) stands for product in accordance to IEC 60335-1 (GWT); (590) stands for product in accordance to TV loading. For standard type is TV-5, for sensitive type is TV-3.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

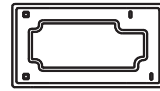
Unit: mm

Outline Dimensions

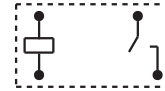


Wiring Diagram

(Bottom view)

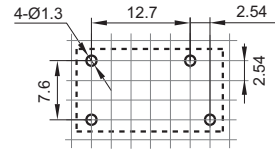


(Bottom view)



PCB Layout

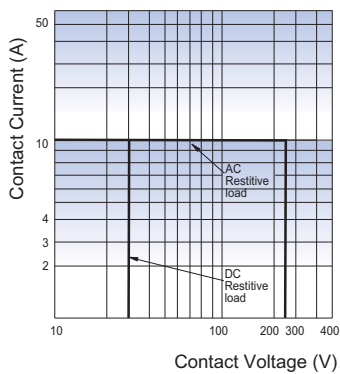
(Bottom view)



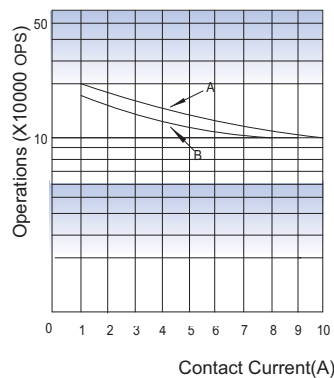
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.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

性能曲线图

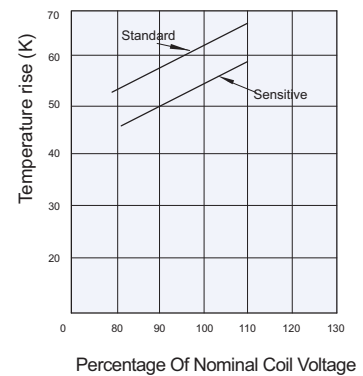
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



Remark:

- Curve A: standard
Curve B: sensitive
- Testing conditions:
Standard: flux proofed, resistive load, 10A/250VAC, at room temp. 1s on 9s off.
Sensitive: flux proofed, resistive load, 8A/250VAC, at room temp. 1s on 9s off.

Testing conditions:

- Standard: 10A at 85°C.
 Sensitive: 8A at 85°C
 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.