HF32FA-G SUBMINIATURE INTERMEDIATE POWER RELAY

c UL us
File No.:E134517

VDE
File No.:40006182

CQC
File No.:CQC09002028689

Features

- 10A switching capability
- Creepage/clearance distance>8mm
- 5kV dielectric strength (between coil and contacts)
- UL insulation system: Class F
- Meets VDE 0700, 0631 reinforce insulation
- 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
Contact resistance	70mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$
Contact rating (Res. Load)	10A 250VAC
Max. switching voltage	250VAC
Max. switching current	10A
Max. switching power	2500VA
Mechanical endurance	1 x 10^6 OPS
Electrical endurance	1 x 10^4 OPS (10A 250VAC, Resistive load, at 85℃, 1s on 9s off)

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℃ to 85℃
Shock resistance*	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance*		10Hz to 55 Hz 1.65mm DA
Termination		PCB
Unit weight		Approx.4.6g
Construction		Plastic sealed, Flux proofed

Notes: 1) *Index is not in relay length direction.
2) The data shown above are initial values.
3) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	Standard: Approx. 450mW; Sensitive: Approx. 230mW

COIL DATA at 23℃

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC[1)]	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[2)]	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[1)]	Coil Resistance Ω
3	2.25	0.15	5.1	38 x (1±10%)
5	3.75	0.25	8.5	108 x (1±10%)
6	4.50	0.30	10.2	155 x (1±10%)
9	6.75	0.45	15.3	350 x (1±10%)
12	9.00	0.60	20.4	620 x (1±10%)
18	13.5	0.90	30.6	1390 x (1±10%)
24	18.0	1.20	40.8	2480 x (1±10%)
48[2)]	36.0	2.40	81.6	9920 x (1±10%)

Notes: 1) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.
2) For products with rated voltage ≥ 48V, measures should be taken to prevent coil overvoltage in order to protect coil in test and application (eg. Connect diodes in parallel).

SAFETY APPROVAL RATINGS

UL/CUL	10A 250VAC at 85℃ B300
VDE	10A 250VAC at 85℃

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

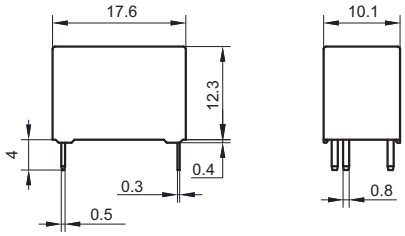
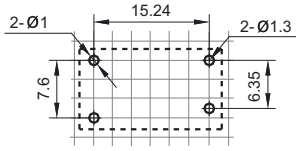
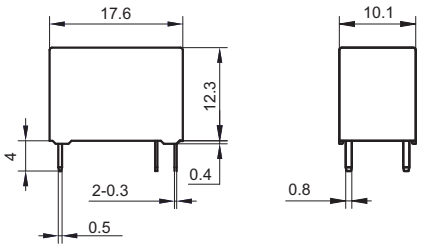
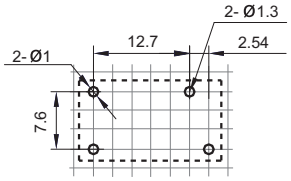
ORDERING INFORMATION

	HF32FA-G /	012	-H	S	L	1	G	(XXX)
Type								
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	**Nil:** Standard						
Termination	**1:** Type 1	**2:** Type 2						
Contact plating[3)]	**G:** Gold plated	**Nil:** No gold plated						
Special code[4)]	**XXX:** Customer special requirement	**Nil:** Standard						

Notes: 1) We recommend flux proofed types for a clean environment (free from contaminations like H_2S, SO_2, NO_2, dust, etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H_2S, SO_2, NO_2, 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) For gold plated type, the min. switching current and min. switching voltage is 10mA 5VDC.
4) 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).

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

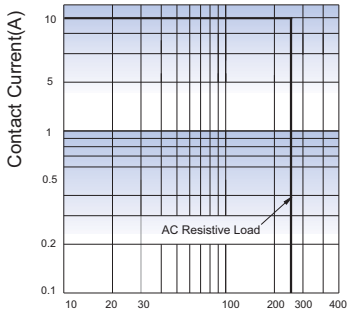
Unit: mm

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

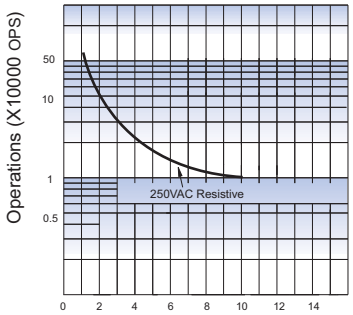
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The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

CHARACTERISTIC CURVES

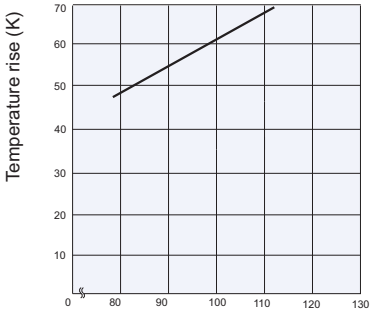
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



TEMPERATURE RISE



Test conditions: Flux proofed, at 85℃
5s on 5s off

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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