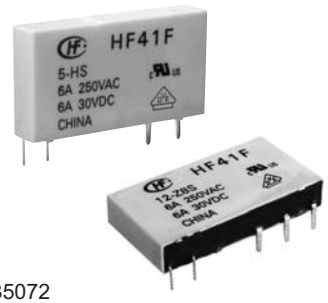
HF41F SUBMINIATURE POWER RELAY

File No.: E133481

File No.: 40020043

File No.: CQC09002035072



Features

- Slim size (width 5mm)
- High breakdowm voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Meeting VDE 0700, 0631 reinforce insulation
- High sensitive: Approx.170mW
- Sockets available
- 1 Form A and 1 Form C configurations
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (28.0 x 5.0 x 15.0) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ max. (at 1A 6VDC) Gold plated: 30mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$, AgNi
Contact rating (Res. load)	6A 250VAC/30VDC
Max. switching voltage	400VAC / 125VDC
Max. switching current	6A
Max. switching power	1500VA / 180W
Mechanical endurance	1 x 10^7OPS
Electrical endurance (UL Approval)	1A: 6 x 10^4OPS (at 85°C) 1C: (NO) 3 x 10^4OPS (at 85°C) (NC) 1 x 10^4OPS (at 85°C)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1 min
	Between open contacts	1000VAC 1 min
Operate time (at nomi.volt.)		8ms max.
Release time (at nomi.volt.)		4ms max.
Shock resistance	Functional	49m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 5g
Construction		Plastic sealed, Flux proofed

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.
3) Please do not install a SPDT(1 Form C) type relay on either of the smallest sides or facing downward.
4) UL insulation system: Class A

COIL

Coil power	5VDC to 24VDC: Approx. 170mW 48VDC, 60VDC: Approx. 210mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.75	0.25	7.5	147 x (1±10%)
6	4.50	0.30	9.0	212 x (1±10%)
9	6.75	0.45	13.5	476 x (1±10%)
12	9.00	0.60	18	848 x (1±10%)
18	13.5	0.90	27	1906 x (1±15%)
24	18.0	1.20	36	3390 x (1±15%)
48	36.0	2.40	72	10600 x (1±15%)
60	45.0	3.00	90	16600 x (1±15%)

Notes: When require pick-up voltage=70% nominal voltage, special order allowed .

SAFETY APPROVAL RATINGS

UL/CUL	6A 30VDC Resistive: 6A 277VAC Pilot duty: R300 B300
VDE	6A 30VDC 6A 250VAC

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

ORDERING INFORMATION

	HF41F /	12	-H	8	S	T	G	(XXX)

Type		
Coil voltage	5, 6, 9, 12, 18, 24, 48, 60VDC	
Contact arrangement	**H:** 1 Form A	**Z:** 1 Form C
Version [1]	**8:** Flat pack version	**Nil:** Vertical version
Construction [2]	**S:** Plastic sealed	**Nil:** Flux proofed
Contact material	**T:** $AgSnO_2$	**Nil:** AgNi
Contact plating	**G:** Gold plated	**Nil:** No gold plated
Customer special code	(210): stands for pick-up voltage less than 70% of norminal voltage	

Notes: 1) We recommend flux proofed types for the flat pack version.
2) 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.).
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

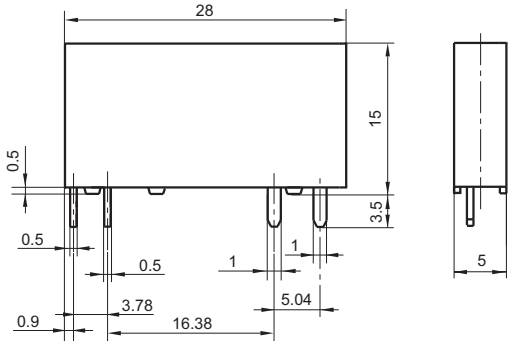
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

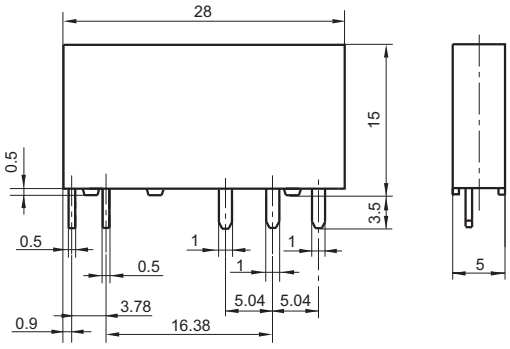
Outline Dimensions

1 Form A

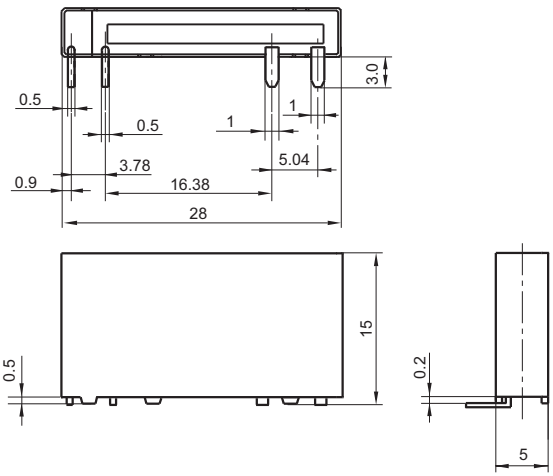
Vertical version

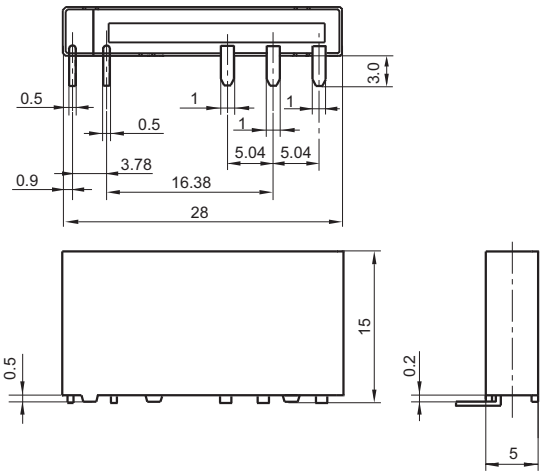


1 Form C



Flat pack version





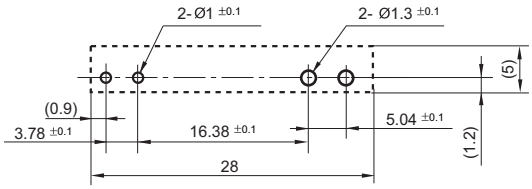
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

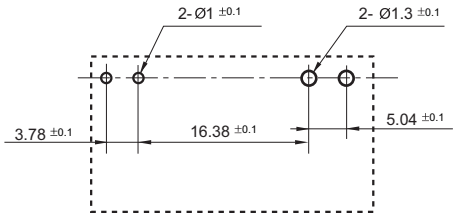
PCB Layout (Bottom view)

1 Form A

Vertical version

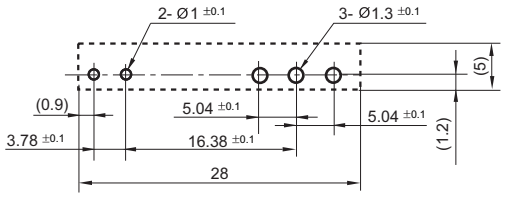


Flat pack version



1 Form C

Vertical version



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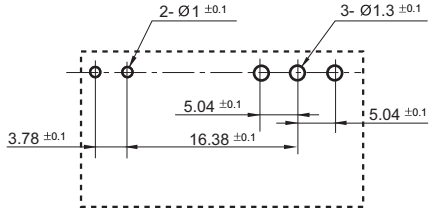


Wiring Diagram (Bottom view)

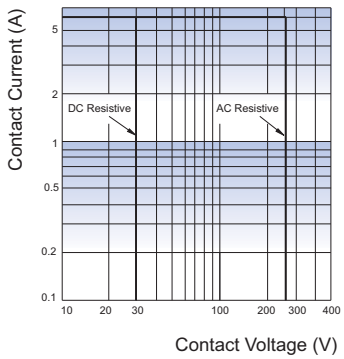
1 Form A

1 Form C

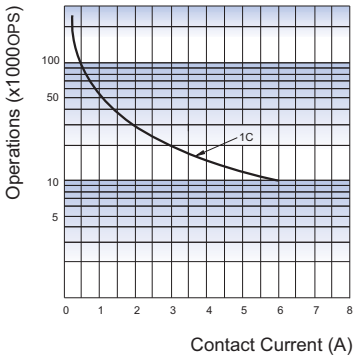
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layouts is always ±0.1mm.

CHARACTERISTIC CURVES

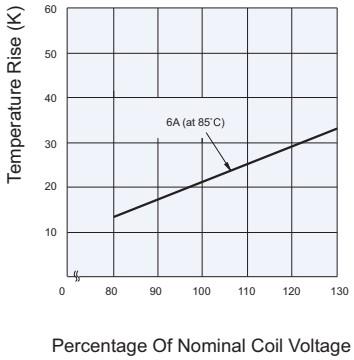
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL 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.