

HF41F

SUBMINIATURE POWER RELAY



File No.:E133481



File No.:40020043



Features

- Slim size (width 5mm)
- High breakdown voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Clearance/creepage distance: 8mm
- High sensitive: 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 (at 1A 6VDC) Gold plated: 30mΩ (at 1A 6VDC)
Contact material	AgNi, AgSnO ₂
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 ⁷ OPS
Electrical endurance	1A: 6x10 ⁴ OPS (at 85°C) 1C: (NO) 3x10 ⁴ OPS (at 85°C) (NC) 1x10 ⁴ OPS (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	50m/s ² (5g)
	Destructive	1000m/s ² (100g)
Vibration resistance	10Hz to 55Hz 1mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 5.4g	
Construction	Wash tight, Flux proofed	

Notes:

- 1) The data shown above are initial values.
- 2) Please find coil temperature curve in the characteristic curves below.
- 3) When install 1 Form C type of HF41F, please do not make the relay side with 5mm width down.

COIL

Coil power	5 to 24VDC: 170mW 48VDC, 60VDC: 210mW
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COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	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&CUR	6A 30VDC Resistive: 6A 277VAC Pilot duty: R300 B300
VDE (AgNi)	6A 30VDC 6A 250VAC

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

ORDERING INFORMATION

Type	HF41F / 12 -H 8 S T G (XXX)					
Coil voltage	5, 6, 9, 12, 18, 24, 48, 60VDC					
Contact arrangement	H: 1 Form A		Z: 1 Form C			
Version	8: Flat pack version		Nil: Vertical version			
Construction ¹⁾	S: Wash tight		Nil: Flux proofed			
Contact material	T: AgSnO ₂		Nil: AgNi			
Contact plating	G: Gold plated		Nil: No gold plated			

Customer special code ²⁾ Only for special requirements, e.g. (555) stands for RoHS compliant

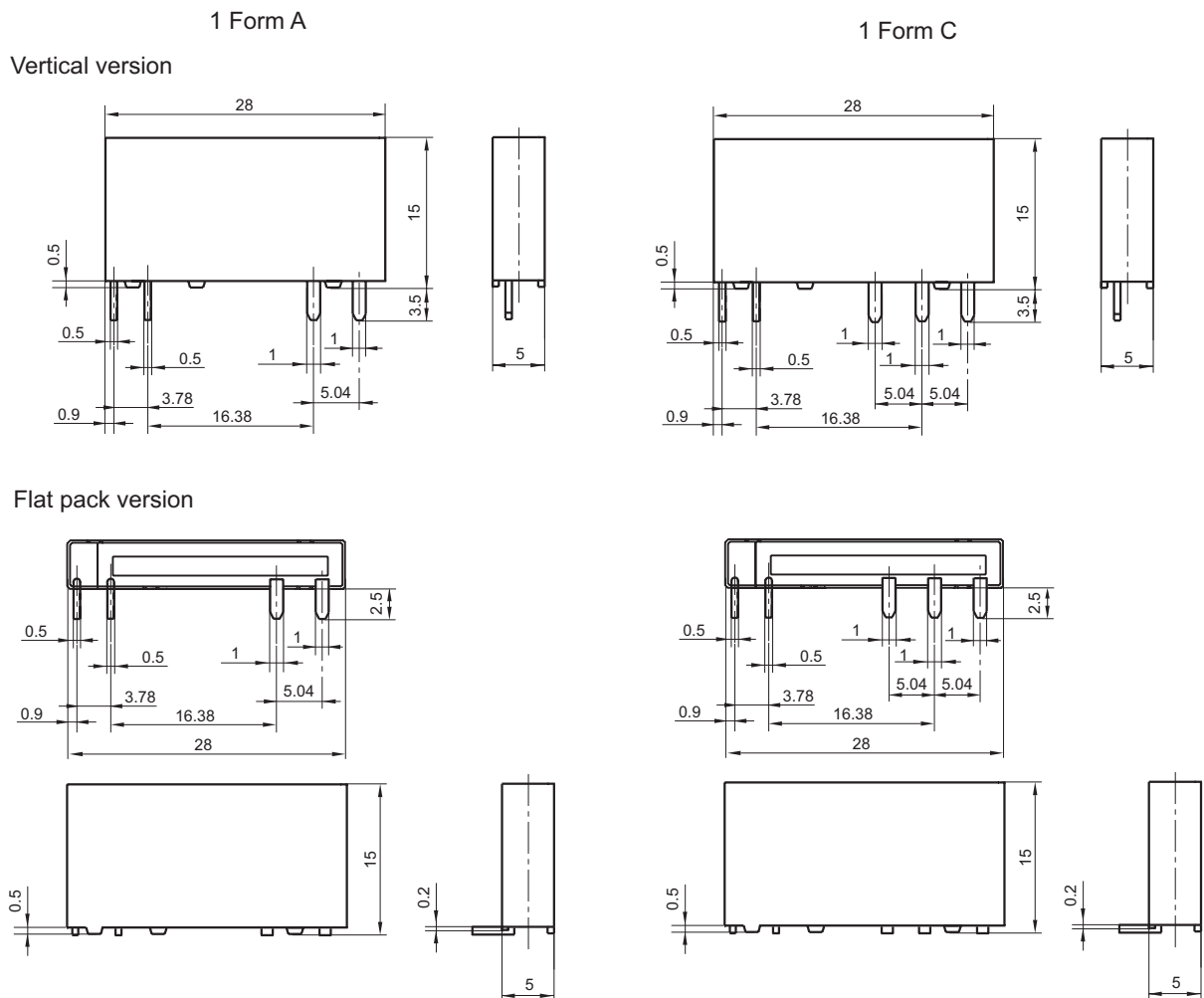
Notes: 1) Under the ambience with dangerous gas like H₂S, SO₂ or NO₂, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

2) HF41F is an environmental friendly product. Please mark a special code (555) when ordering.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

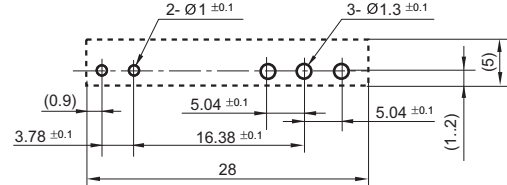
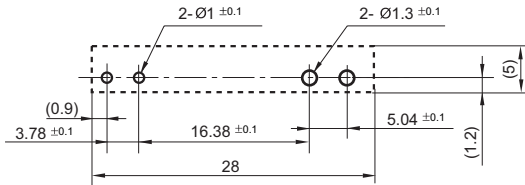
Unit: mm

PCB Layout (Bottom view)

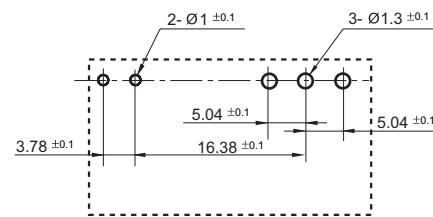
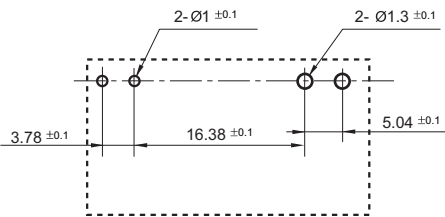
1 Form A

1 Form C

Vertical version



Flat pack version



Wiring Diagram (Bottom view)

1 Form A

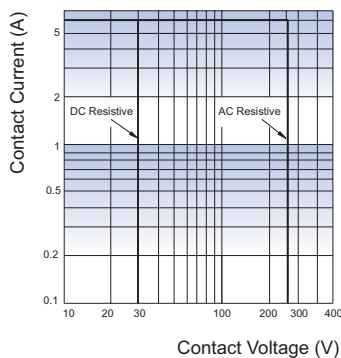
1 Form C



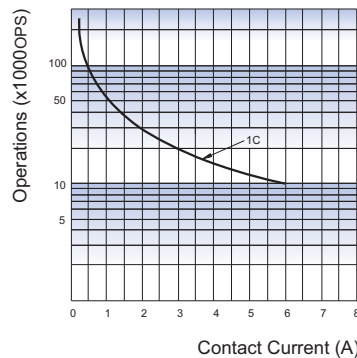
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.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

CHARACTERISTIC CURVES

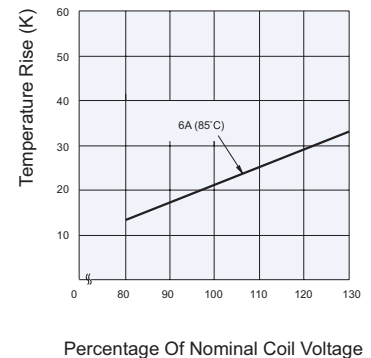
MAXIMUM SWITCHING POWER



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.