HF41F SUBMINIATURE POWER RELAY

c UL us
File No.:E133481

VDE
File No.:40020043

Features

- Slim size (width 5mm)
- High breakdowm 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 $x10^7$ 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

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

	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	**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 H_2S, SO_2 or NO_2, 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.

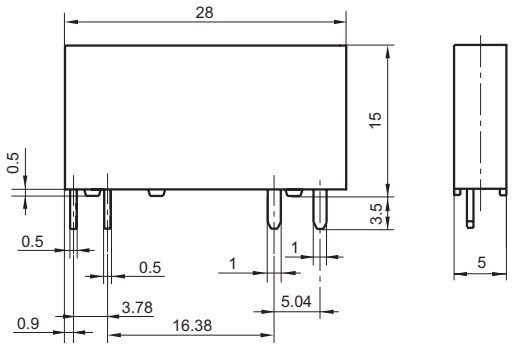
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

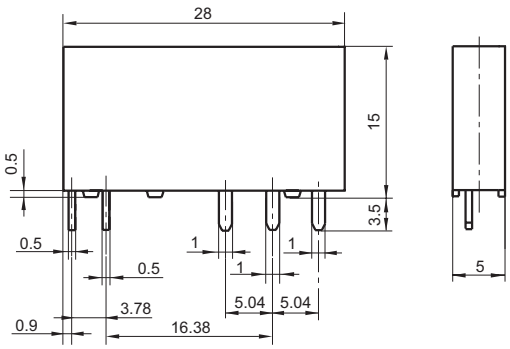
Outline Dimensions

1 Form A

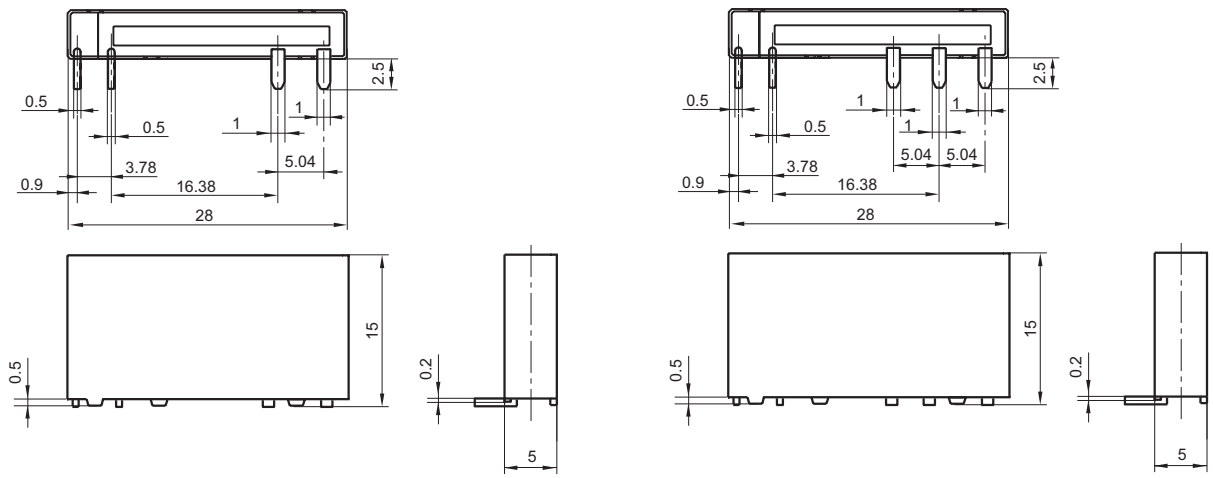
Vertical version



1 Form C



Flat pack version



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

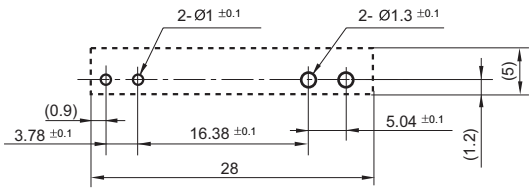
Unit: mm

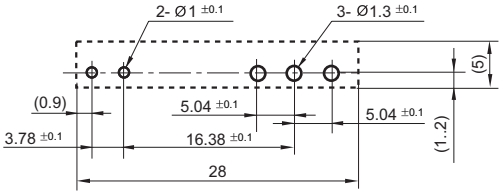
PCB Layout (Bottom view)

1 Form A

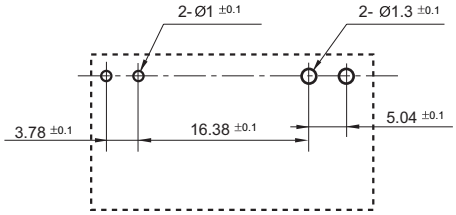
1 Form C

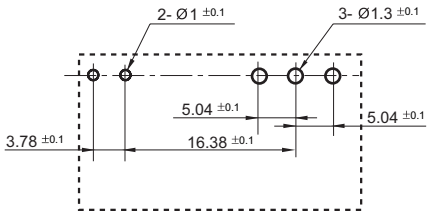
Vertical version





Flat pack version





Wiring Diagram (Bottom view)

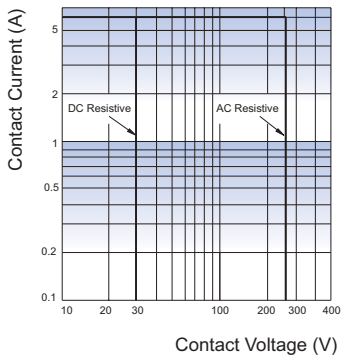
1 Form A

1 Form C

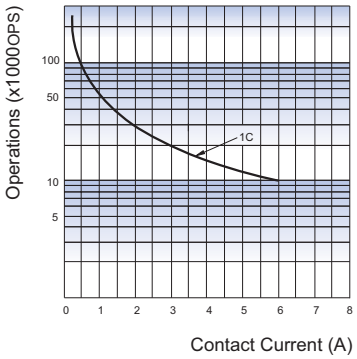
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layouts is always ±0.1mm.

CHARACTERISTIC CURVES

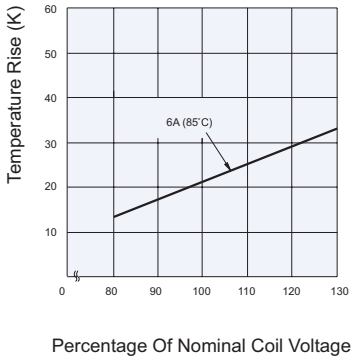
MAXIMUM SWITCHING POWER



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.