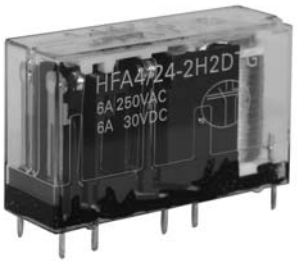
HFA4

SAFETY RELAY
(RELAY WITH FORCIBLY GUIDED CONTACTS)

c UL us
File No.:E134517

VDE
File No.:40034342



Features

- Multi contact arrangements: 2NO+2NC, 3NO+1NC
- Forcibly guided contacts according to EN50205
- 6A switching capability
- Low input power: 360mW
- High insulation capability: 10kV surge voltage between input and output
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (40.0 x 13.0 x 24.0) mm

CONTACT DATA

Contact arrangement	2NO+2NC (2H2D type) 3NO+1NC (3H1D type)
Forcibly guided contacts Type (according to EN50205)	Type A
Contact resistance	100mΩ max. (at 1A 6VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	6A 250VAC / 30VDC
Max. switching voltage	400VAC / 30VDC
Max. switching current	6A
Max. switching power	1500VA /180W
Electrical endurance[1)]	1 x 10^5OPS
Mechanical endurance	1 x 10^7OPS

Notes: 1) Applicable for rated load only on 1 NO or 1 NC, 5s ON/5s OFF.

COIL

Coil power	Approx. 360mW

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
6	4.5	0.6	7.8	100 x (1±10%)
9	6.8	0.9	11.7	225 x (1±10%)
12	9.0	1.2	15.6	400 x (1±10%)
18	13.5	1.8	23.4	900 x (1±10%)
24	18.0	2.4	31.2	1600 x (1±10%)
36	27.0	3.6	46.8	3600 x (1±10%)
48	36.0	4.8	62.4	6400 x (1±10%)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1 min
	Between open contacts	1500VAC 1 min
	Between contact sets	2500VAC 1 min (7-8/9-10) 4000VAC 1 min (Other)
Surge voltage	Between coil & contacts	10kV (1.2 / 50μs)
	Between contact sets	5kV (1.2 / 50μs)
Operate time (at rated voltage)		20ms max.
Release time (at rated voltage)		20ms max.
Vibration resistance		NO/NC:10Hz to 55Hz 1.5mm DA NO:55Hz to 200Hz, 98m/s^2 NC:55Hz to 200Hz, 49m/s^2
Shock resistance	Functional	196m/s^2
	Destructive	980m/s^2
Creepage distance	Between coil & contacts	8mm
	Between contacts	5.5mm
Clearance distance	Between coil & contacts	8mm
	Between contacts	5.5mm
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 20g
Construction		Flux proofed

Notes: 1) UL insulation system: Class F, Class B.

SAFETY APPROVAL RATINGS

UL/CUL	6A 277VAC / 250VAC / 125VAC at 85°C 6A 30VDC at 85°C Pilot duty: 2A 240VAC room temp.
VDE	6A 250VAC at 85°C 6A 30VDC at 85°C AC-15: 1.5A 240VAC at room temp. AC-15: 2A 240VAC at room temp.

ORDERING INFORMATION

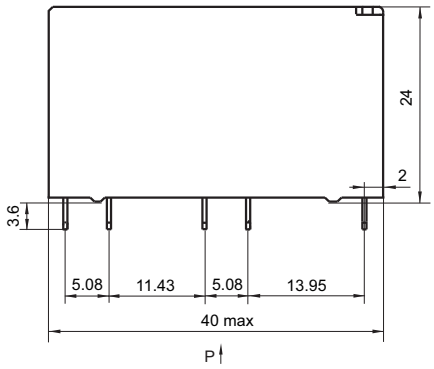
	HFA4 /	24	-2H2D	T	G	F	(XXX)
Type							
Coil voltage	6, 9, 12, 18, 24, 36, 48VDC						
Contact arrangement	**2H2D:** 2NO+2NC **3H1D:** 3NO+1NC						
Contact material	**T:** $AgSnO_2$						
Contact plating	**G:** Glod plated						
Insulation class	**F:** Class F **Nil:** Class B						
Customer special code							

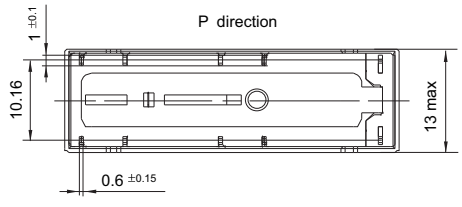
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

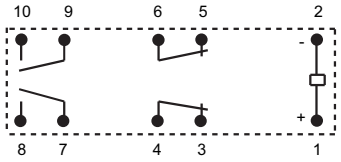
HFA4/ □□ - 2H2D T □ (□□□)

Outline Dimensions

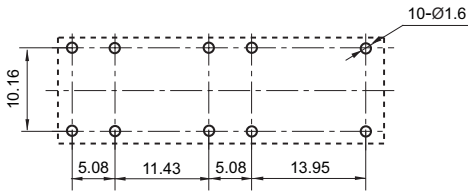




Wiring Diagram
(Bottom view)



PCB Layout
(Bottom view)

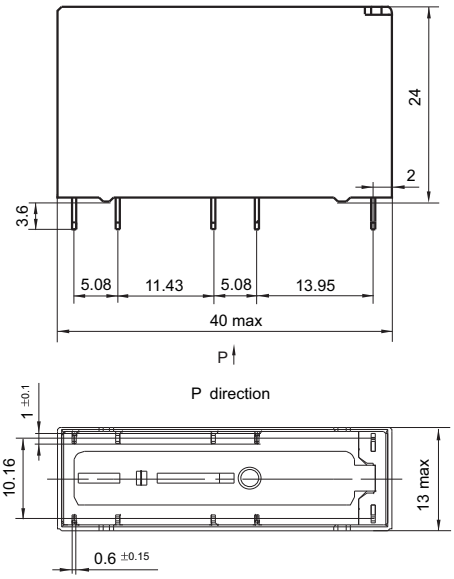


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

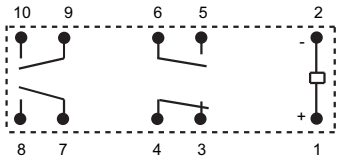
HFA4/ □□ - 3H1DT□ (□□□)

Outline Dimensions



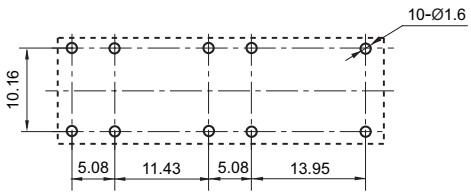
Wiring Diagram

(Bottom view)



PCB Layout

(Bottom view)

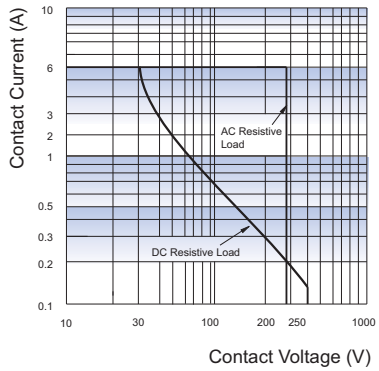


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

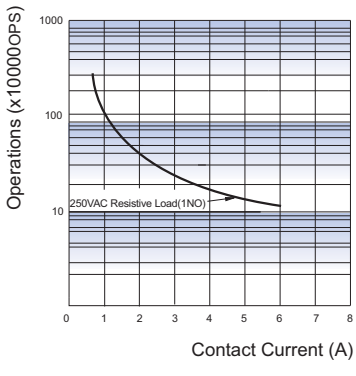
2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

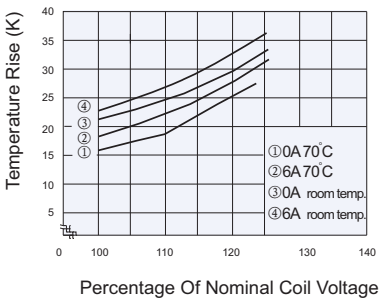
MAXIMUM SWITCHING POWER



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.