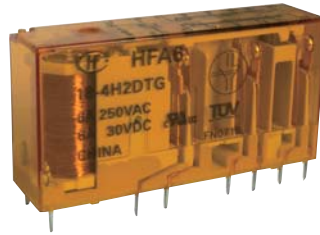


HFA6

SAFETY RELAY (RELAY WITH FORCIBLY GUIDED CONTACTS)

CULUS
File No.:E134517

TÜV
File No.:B120553286004



Features

- Multi contact arrangements: 5NO+1NC, 4NO+2NC, 3NO+3NC
- Forcibly guided contacts according to EN50205
- 6A switching capability
- Low input power: 500mW
- High insulation capability: 10kV surge voltage between input and output
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (50.0 x 13.0 x 24.0) mm

CONTACT DATA

Contact arrangement	5NO+1NC (5H1D type) 4NO+2NC (4H2D type) 3NO+3NC (3H3D type)
Forcibly guided contacts Type (according to EN50205)	Type A
Contact resistance	100mΩ (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
Typ. applicable load	AC-15: 1.5A / 240VAC (COSφ=0.3) DC-13: 1A / 24VDC (L/R=48ms)
Electrical endurance ¹⁾	1 x 10 ⁵ ops
Mechanical endurance	1 x 10 ⁷ ops

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

COIL

Coil power	Approx. 500mW
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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	6.6	72 x (1±10%)
9	6.8	0.9	9.9	162 x (1±10%)
12	9.0	1.2	13.2	288 x (1±10%)
18	13.5	1.8	21.78	648 x (1±10%)
24	18.0	2.4	26.4	1152 x (1±10%)
36	27.0	3.6	39.6	2592 x (1±10%)
48	36.0	4.8	52.8	4608 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 (11-12/13-14) 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. 23g	
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: 1.5A 240VAC at 40°C 3A 120VAC at 40°C
TÜV	6A 277VAC / 30VDC 1.5A / 2A 240VAC(AC-15)

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

ORDERING INFORMATION

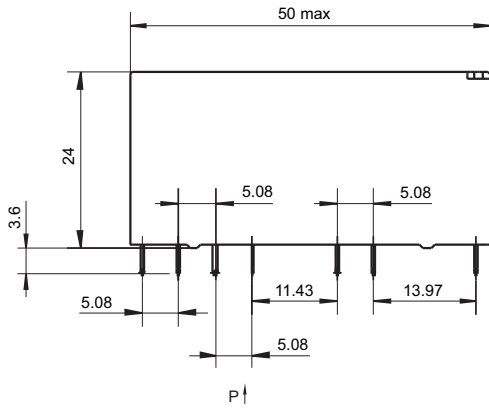
Type	HFA6 /	24	-5H1D	T	G	F	(XXX)
Coil voltage	6, 9, 12, 18, 24, 36, 48VDC						
Contact arrangement	5H1D: 5NO+1NC 3H3D: 3NO+3NC		4H2D: 4NO+2NC				
Contact material	T: AgSnO ₂						
Contact plating	G: Gold plated						
Insulation class	F: Class F		Nil: Class B				
Customer special code							

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

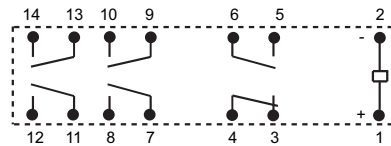
Unit: mm

HFA6 / □□ - 5H1DT□ (□□□)

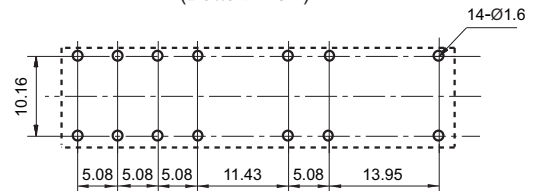
Outline Dimensions



Wiring Diagram
(Bottom view)



PCB Layout
(Bottom view)

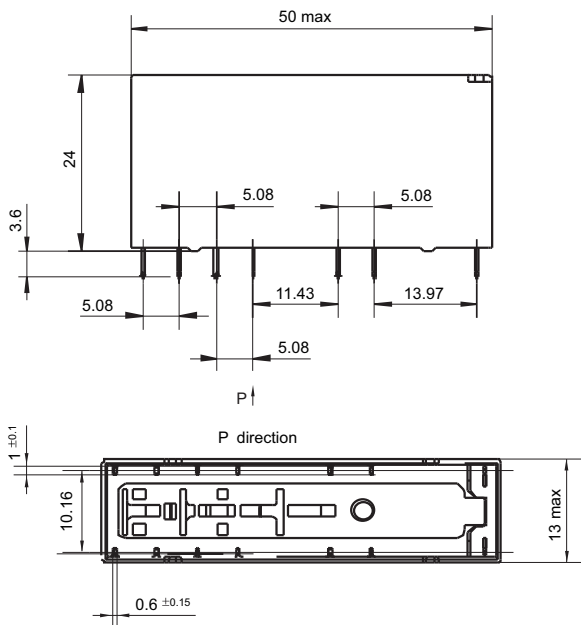


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

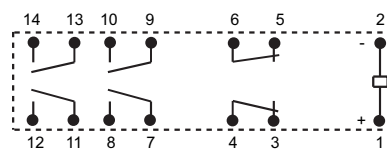
HFA6/ □□ - 4H2DT □ (□□□)

Outline Dimensions



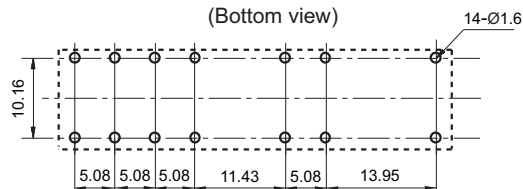
Wiring Diagram

(Bottom view)



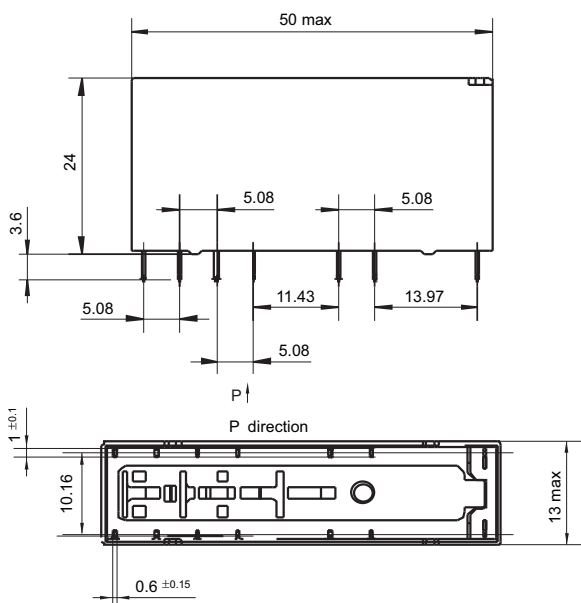
PCB Layout

(Bottom view)



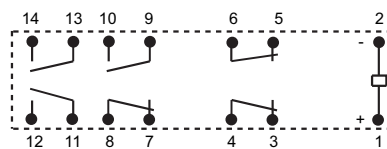
HFA6/ □□ - 3H3DT □ (□□□)

Outline Dimensions



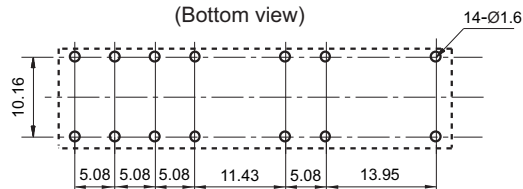
Wiring Diagram

(Bottom view)



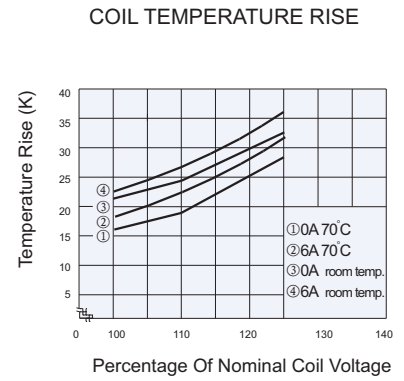
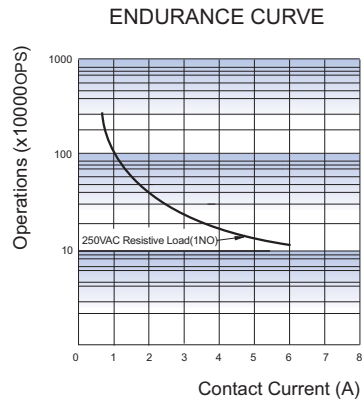
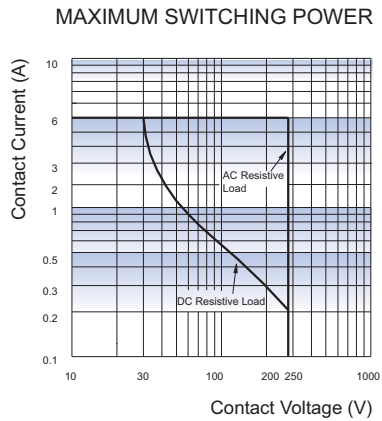
PCB Layout

(Bottom view)



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

CHARACTERISTIC CURVES



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.