HF140FF-G

MINIATURE INTERMEDIATE POWER RELAY

C ℛ US

File No.:E134517

File No.:R50149131

CQC

File No.:CQC10002046173

Features

- 16A switching capability
- 5kV dielectric strength
  (between coil and contacts)
- 2.0mm contact gap available
- Plastic sealed and flux proofed types available
- Sockets available
- UL insulation system:Class F

RoHS compliant

CONTACT DATA

Contact arrangement	2A, 2C
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	16A 250VAC
Max. switching voltage	250VAC
Max. switching current	16A
Max. switching power	4000VA
Mechanical endurance	W type: 1 x10^5OPS
Electrical endurance	W type(1.5mm)-2ZWTF: NO 3 x 10^4OPS, NC 1 x 10^4OPS (Resistive load,1s on 9s off) W type(2.0mm)-2ZWTF(456): NO 3 x 10^4OPS, NC 6 x 10^3OPS (Resistive load,1s on 9s off)

Notes: 1) The data shown above are initial values.
2) For plastic sealed type, the venting-hole should be excised in electrical endurance test.
3) Large gap (W type) products: the ambient temperature of the relay is -40°C ~ 75°C; (When used at 75°C ~ 85 °C, step-down maintenance is required: applying rated voltage for 200ms firstly to ensure stable connection, then reduce to and maintain 45- 65% of rated voltage.)

SAFETY APPROVAL RATINGS

UL	16A 250VAC Resistive at 85°C 1/3HP 125VAC NO/NC,40°C 3/4HP 250/240VAC,NO,40°C TV-5, 125VAC,40°C
TÜV	16A 250VAC Resistive at 85°C
CQC	16A 250VAC Resistive at 85°C

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between contacts sets	3000VAC 1min
	Between open contacts	W type:2500VAC 1min
Surge voltage (between coil & contacts)		10kV (1.2/50 μs)
Operate time (at nomi. volt.)		20ms max.
Release time (at nomi. volt.)		15ms max.
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mmDA
Termination		PCB
Unit weight		Approx. 19g
Construction		Plastic sealed, Flux proofed

Notes: 1) The data shown above are initial values.

COIL

Coil power	W type(1.5mm): Approx. 800mW W type(2.0mm): Approx. 1.4W

HF HONGFA RELAY

ISO9001, IATF16949 , ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED   2024 Rev. 1.00

COIL DATA

W Type (1.5mm)

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	≤2.40	≥0.15	3.3	11.3 x (1±10%)
5	≤4.00	≥0.25	5.5	31 x (1±10%)
6	≤4.80	≥0.30	6.6	45 x (1±10%)
9	≤7.20	≥0.45	9.9	101 x (1±10%)
12	≤9.60	≥0.60	13.2	180 x (1±10%)
15	≤12.0	≥0.75	16.5	280 x (1±10%)
18	≤14.4	≥0.90	19.8	405 x (1±10%)
24	≤19.2	≥1.20	26.4	720 x (1±10%)
36	≤28.8	≥1.80	39.6	1620x (1±10%)
48	≤38.4	≥2.40	52.8	2880 x (1±10%)
60	≤48.0	≥3.00	66.0	4500 x (1±10%)
110	≤88.0	≥5.50	121.0	15100 x (1±10%)

W Type (2.0mm)

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	≤2.40	≥0.15	3.3	6x (1±10%)
5	≤4.00	≥0.25	5.5	18 x (1±10%)
6	≤4.80	≥0.30	6.6	26 x (1±10%)
9	≤7.20	≥0.45	9.9	58 x (1±10%)
12	≤9.60	≥0.60	13.2	102 x (1±10%)
15	≤12.0	≥0.75	16.5	160 x (1±10%)
18	≤14.4	≥0.90	19.8	230 x (1±10%)
24	≤19.2	≥1.20	26.4	410 x (1±10%)
36	≤28.8	≥1.80	39.6	925x (1±10%)
48	≤38.4	≥2.40	52.8	1650 x (1±10%)
60	≤48.0	≥3.00	66.0	2570 x (1±10%)
110	≤88.0	≥5.50	121.0	8068 x (1±10%)

Notes: 1) The data shown above are initial values.
2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.
3) In order to meet the stated product   performance, please apply rated voltage to coil.
4) For the CO version whose contact gap is 1.5 mm/2.0mm, the operation voltage ≤85% of rated voltage,the coil resistance tolerance is (1±15%).

ORDERING INFORMATION

HF140FF-G/ 024 -2Z S W T G F (XXX)

Type	
Coil voltage	3,5,6,9,12,15,18,24,36,48,60,110VDC
Contact arrangement	**2H:** 2 Form A **2Z:** 2 Form C
Construction	**S:** Plastic sealed **Nil:** Flux proofed
Contact Gap	**W:** Large contact gap
Contact material	**T:** AgSnO2
Contact plating	**G:** Gold plated **Nil:** No gold plated
Insulation standard	**F:** Class F **Nil:** Class F
Special code	**XXX:** Customer special requirement **Nil:** Standard

**Notes:** 1) 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,
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.SO_2, NO_2, dust, etc).
3) There are two specifications to W type: 1.5mm contact gap and 2.0mm contact gap.The default W type is 1.5mm. So please add the special code "(456)" when releasing order,if 2.0mm contact gap is required.
4) The customer special requirement express as special code after evaluating by Hongfa. e.g.(456) means contact gap can reach 2.0mm.

Outline Dimensions

2 Form A

29

26

12.7

0.5 X1.6(4 terminals)

0.4 X1(2 terminals)

$4^{+0.5}_{-0.3}$

20

5

7.5

2 Form C

29

26

12.7

0.5 X1.6(6 terminals)

0.4 X1(2 terminals)

$4^{+0.5}_{-0.3}$

20

5 5

7.5
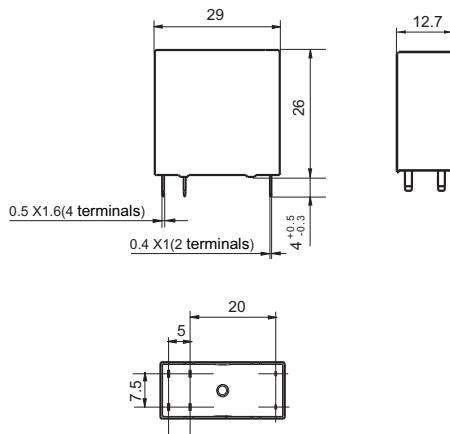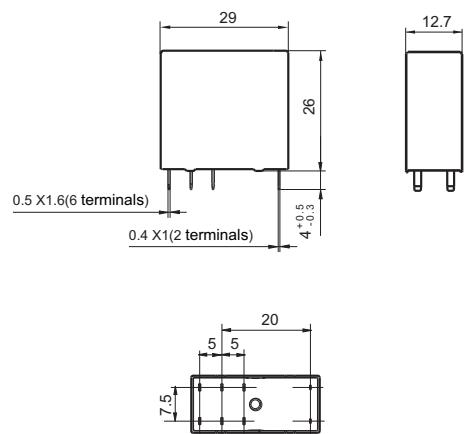
Wiring Diagram (Bottom view)

2 Form A

2 Form C

PCB Layout (Bottom view)

2 Form A

20

5

2.15

7.5

$4x\varnothing2^{+0.1}_{0}$

$2x\varnothing1.3^{+0.1}_{0}$

2 Form C

20

5 5

2.15

7.5

$6x\varnothing2^{+0.1}_{0}$

$2x\varnothing1.3^{+0.1}_{0}$
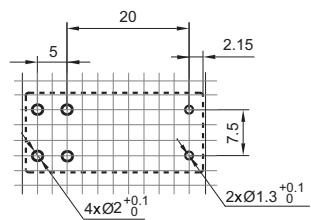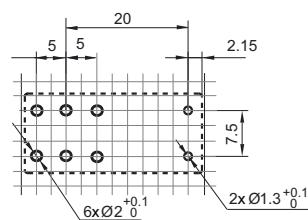
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The width of the gridding is 2.5mm.

ELECTRICAL DURABILITY WIRING DIAGRAM

NO.

NC.

Resisitive

Resisitive
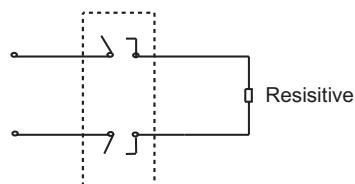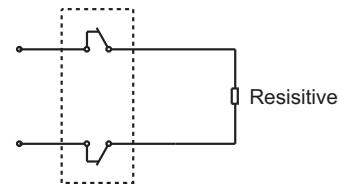
CHARACTERISTIC CURVES

ENDURANCE CURVE

250VAC resistive load/switching current