HF18FF-G/HF18FH-G MINIATURE INTERMEDIATE POWER RELAY

c UL us
File No.:E133481

File No.:R50147087

CQC
File No.:CQC09002030026 (DC type)
CQC09002030027 (AC type)



Features

- Multiple auxiliary functions available
- 2 to 4 pole configurations
- Various terminals available
- Gold plated contact available
- Transparent dust cover ,various installation types
- Automatic production
- High capacity

RoHS compliant

CONTACT DATA

Contact arrangement	2C, 3C
Contact resistance [1]	100mΩ max.(at 1A 6VDC)
Min.contact load[2]	5VDC 1mA
Contact material	See"ORDERING INFORMATION"
Contact rating (Res. load)	12A 250VAC/30VDC(2Z-G) 10A 250VAC/30VDC(3Z-G)
Max. switching voltage	250VAC / 30VDC
Max. switching current	12A(2Z-G) , 10A(3Z-G)
Max. switching power	3000VA/360W(2Z-G),2500VA/300W(3Z-G)
Mechanical endurance	2 x 10^7OPS
Electrical endurance[3]	1 x 10^5OPS(room temperature)

Notes: 1) The data shown above are initial values.
2) This value is a reference switching limit for light loads, not a guaranteed value.
It varies with frequency, environment and reliability. Please verify under actual use.
3) Please refer to the characteristic curves for detailed electrical endurance information.If you need other conditions,please contact us.

COIL

Coil power	DC type: Approx. 0.8W to 1.1W; AC type: Approx. 0.9VA to 1.5VA

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	1500VAC 1min
Operate time (at nomi. volt.)		20ms max.
Release time (at nomi. volt.)		DC type:15ms max. AC type:25ms max. DC type (with diode): 25ms max.
Temperature rise (no-load, at nomi.volt.)[2]		85K max.
Shock resistance	Functional	100m/s²
	Destructive	1000m/s²
Vibration resistance		10Hz to 55Hz 1mm DA
Humidity		5% to 85% RH
Ambient temperature		-40˚C to 70˚C
Termination		PCB, Plug-in
Unit weight		Approx. 35.6g
Construction		Dust protected

Notes: 1) The data shown above are initial values.
2) When testing the Temperature rise,please separate test each relay.

SAFETY APPROVAL RATINGS

UL/CUL	2 Form C-G	12A 250VAC/30VDC Resistive at 70˚C
	3 Form C-G	10A 250VAC/30VDC Resistive at 70˚C
TÜV	2 Form C-G	12A 250VAC/30VDC
	3 Form C-G	10A 250VAC/30VDC
CQC	2 Form C-G	12A 250VAC/30VDC
	3 Form C-G	10A 250VAC/30VDC

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

COIL DATA

at 23°C

Voltage Code	Nominal Voltage VDC	Pick-up Voltage VDC max.[1]	Drop-out Voltage VDC min.	Max. Voltage VDC[2]	Coil Resistance Ω
005	5	4.0	0.5	5.5	28 x (1±10%)
006	6	4.8	0.6	6.6	40 x (1±10%)
009	9	7.2	0.9	9.9	90 x (1±10%)
012	12	9.6	1.2	13.2	160 x (1±10%)
021	21	16.8	2.1	23.1	490 x (1±10%)
024	24	19.2	2.4	26.4	640 x (1±10%)
030	30	24.0	3.0	33.0	1000 x (1±10%)
036	36	28.8	3.6	39.6	1440 x (1±10%)
048	48	38.4	4.8	52.8	2560 x (1±15%)
060	60	48.0	6.0	66.0	4000 x (1±15%)
110	110	80.0	11.0	121.0	12250 x (1±15%)
125	125	100.0	12.5	137.5	17360 x (1±15%)
220	220	176.0	22.0	242.0	53360 x (1±15%)

Voltage Code	Nominal Voltage VAC	Pick-up Voltage VAC max.[1]	Drop-out Voltage VAC min.	Max. Voltage VAC[2]	Coil Resistance Ω
A006	6	4.8	1.8	6.6	11 x (1±10%)
A012	12	9.6	3.6	13.2	44 x (1±10%)
A024	24	19.2	7.2	26.4	177 x (1±10%)
A036	36	28.8	10.8	39.6	400 x (1±10%)
A048	48	38.4	14.4	52.8	708 x (1±10%)
A060	60	48.0	18.0	66.0	1100 x (1±10%)
A110	110[3]	80.0	33.0	121	3400 x (1±15%)
A120	120[3]	88.0	36.0	132	4080 x (1±15%)
A220	220[3]	160.0	66.0	242	13600 x (1±15%)
A230	230	176.0	72.0	253	16300 x (1±15%)
A240	240[3]	176.0	72.0	264	16300 x (1±15%)
A277	277	221.6	83.1	304.7	23590 x (1±15%)
A380	380	304.0	114.0	418.0	42540 x (1±15%)

Notes: 1) Under ambient temperature, applying more than 80% of rating voltage to coil, relay will take action accordingly. But in order to meet the stated product performance, please apply rated voltage to coli.

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

3) A110:Nominal Voltage(100~110)VAC；A120:Nominal Voltage(110~120)VAC；A220:Nominal Voltage(200~220)VAC；A240:Nominal Voltage(220~240)VAC；110:Nominal Voltage(100~110)VAC；125:Nominal Voltage(110~125)VAC

4) When the 240VAC specification coil test coil temperature rises, the installation pitch needs to be ⩾6mm.

ORDERING INFORMATION

	HF18FF	-G	/A	240	-2Z	1	3	G	D	(XXX)
Type	**HF18FF:** Without button **HF18FH:** With button									
series code	**G:** High capacity									
Coil voltage form	**A:** AC(50Hz or 60Hz) **Nil:** DC									
Coil voltage	See "COIL DATA"									
Contact arrangement	**2Z:** 2 Form C **3Z:** 3 Form C									
Mounting Termination (See the following)	**1:** Socket **2:** PCB **5**[1]**:** Flange-Mounting									
Contact material	**3:** AgNi **T:** $AgSnO_2$									
Contact plating	**Nil:** No gold plated **G:** Gold plated									
Component code[5]	**Nil:** Without Component **D:** with LED **J:** with diode **DJ:** with LED and diode									
Special code[6]	**XXX:** Customer special requirement **Nil:** Standard									

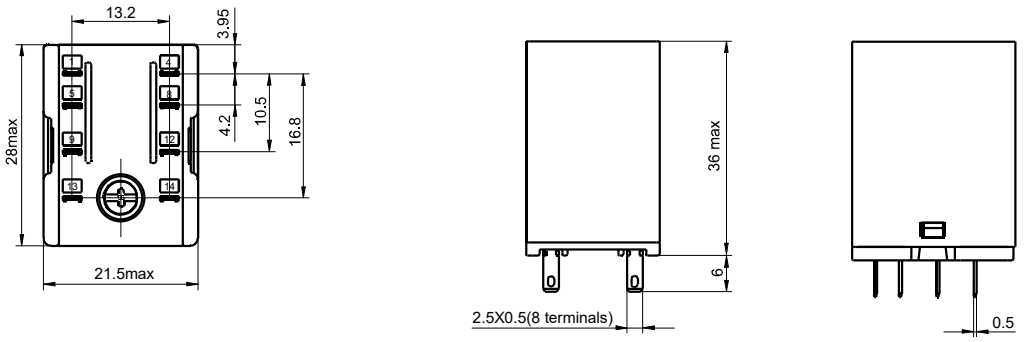
Notes: 1) HF18FH without Flange-Mounting Termination,Please choose HF18FF when ordering.
2) Free-wheeling diode is available for DC coil relay, CR circuit is available for AC coil relay.
3) The customer's special requirement express as special code after evaluating by Hongfa.
4) We can provide (136) Economic model relays, the specific performance is subject to the Specifications Data Sheet, please contact us.
5) For coil specifications of 110VDC and above, it is recommended that the customer add the coil protection measures in the circuit.
6) For products that should meet the explosion-proof requirements of "IEC 60079 series",please note [Ex] after the specification while placing orders.Not all products have explosion-proof certification,so please contact us if necessary.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

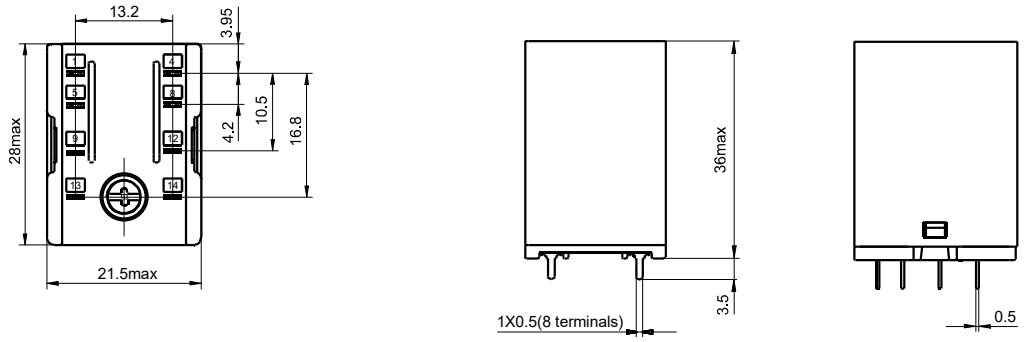
Unit: mm

Outline Dimensions

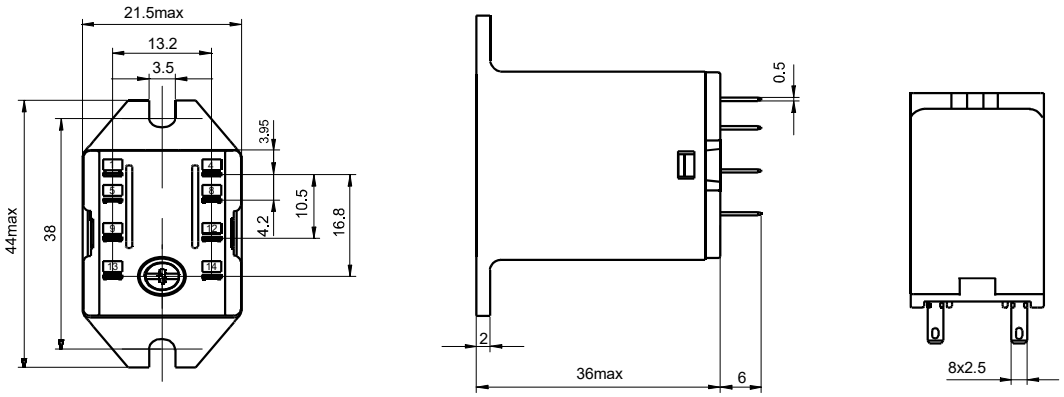
HF18FF-G/□□-2Z1□□□□



HF18FF-G/□□-2Z2□□□□



HF18FF-G/□□-2Z5□□□□

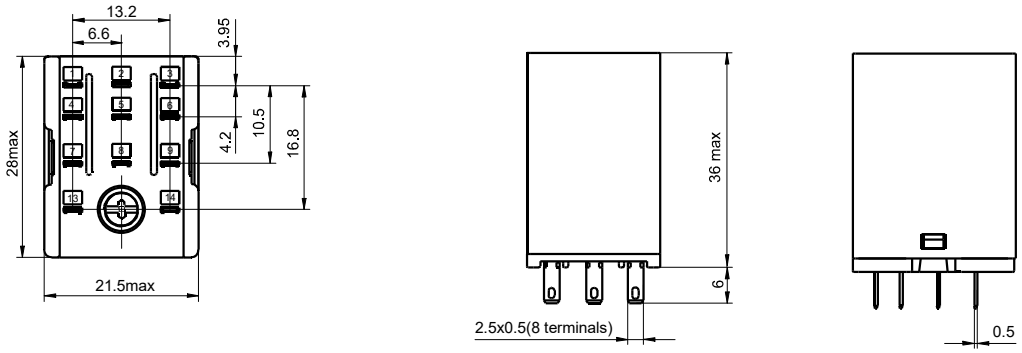


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

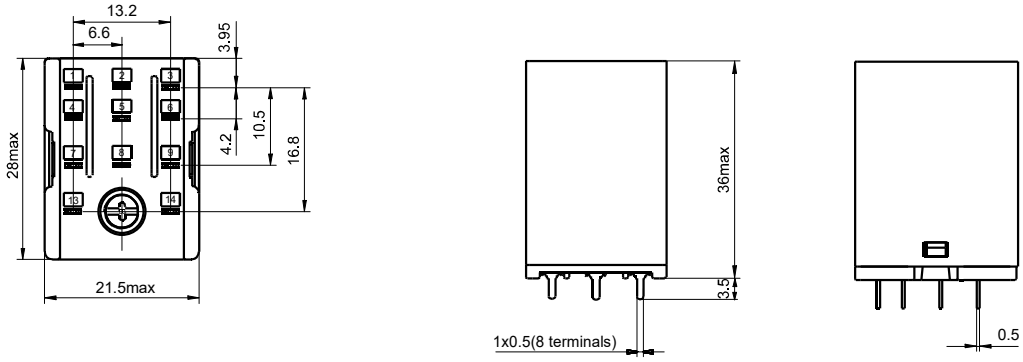
Unit: mm

Outline Dimensions

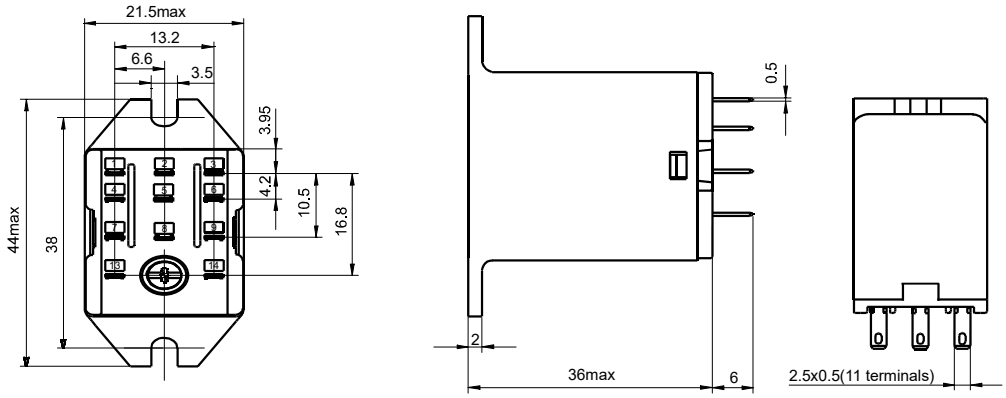
HF18FF-G/□□-3Z1□□□□



HF18FF-G/□□-3Z2□□□□



HF18FF-G/□□-3Z5□□□□

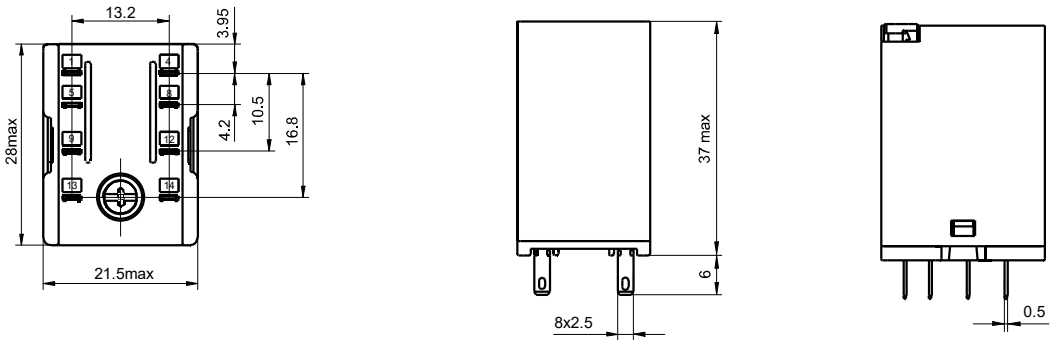


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

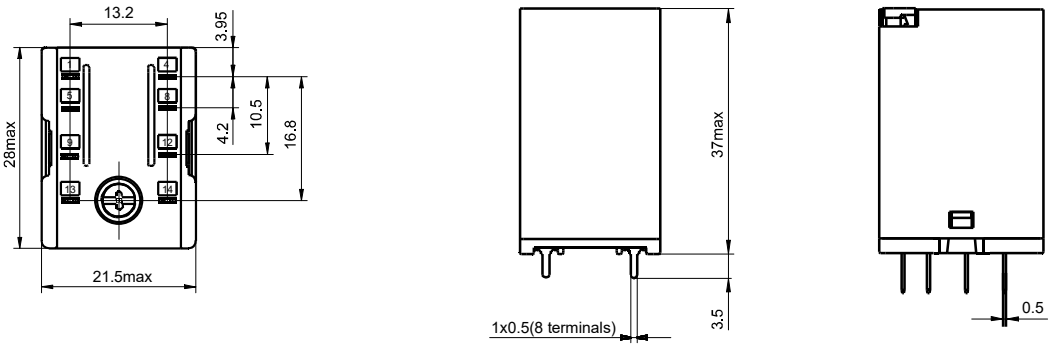
Unit: mm

Outline Dimensions

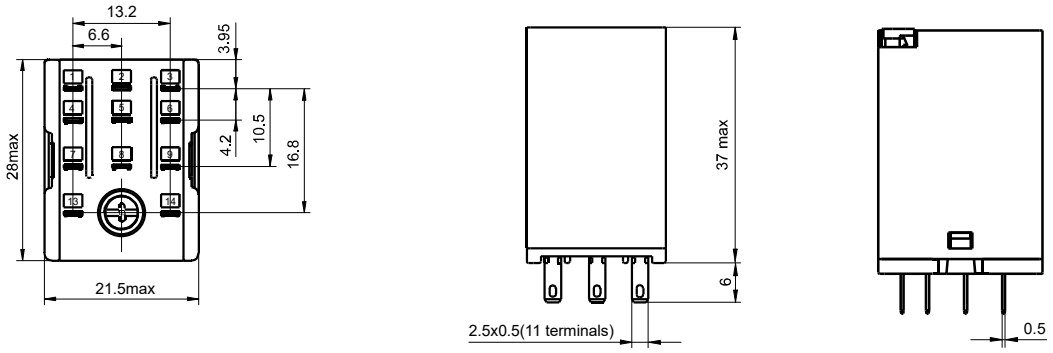
HF18FH-G/□□-2Z1□□□□



HF18FH-G/□□-2Z2□□□□



HF18FH-G/□□-3Z1□□□□

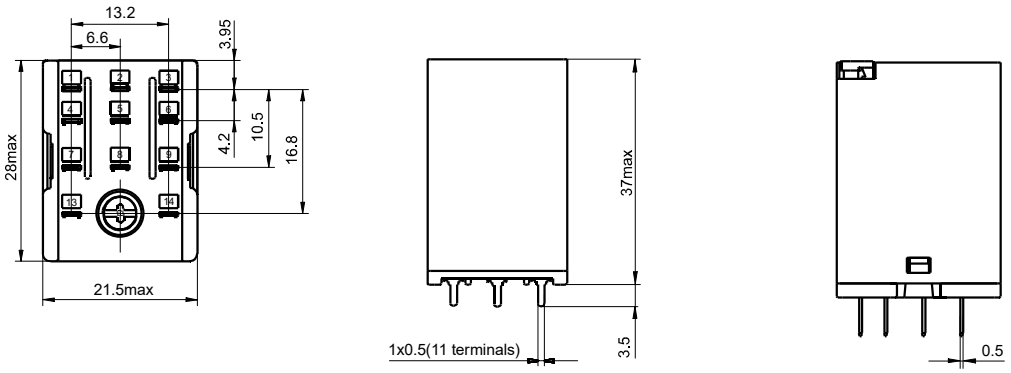


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

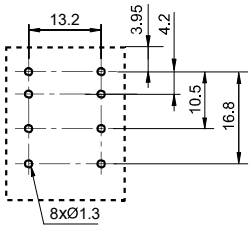
HF18FH-G/□□-3Z2□□□□



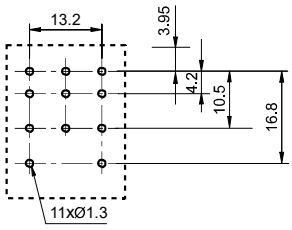
PCB Layout

(Bottom view)

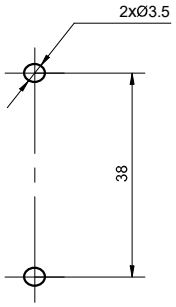
2 Form C



3 Form C



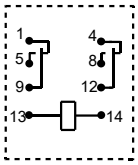
Mounting Holes



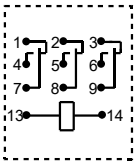
Wiring Diagram

(Bottom view)

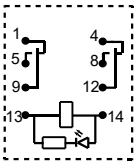
2 Form C



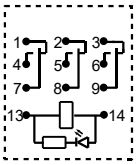
3 Form C



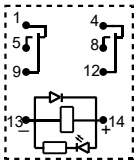
2 Form C (With LED)



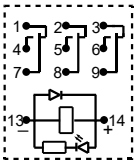
3 Form C (With LED)



2 Form C
(DC, With fly-wheel diode)



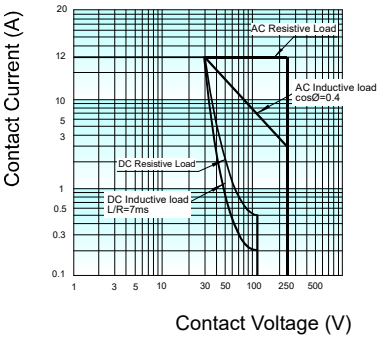
3 Form C
(DC, With fly-wheel diode)



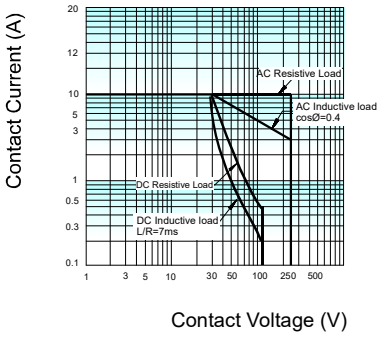
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) DC products with fly-wheel diode,please confirm the positive and negative terminals before wiring.

CHARACTERISTIC CURVES

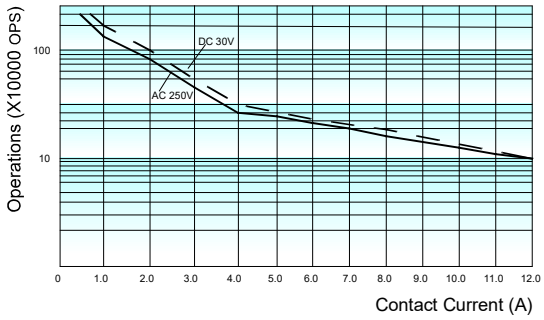
MAXIMUM SWITCHING POWER
(2 Form C)



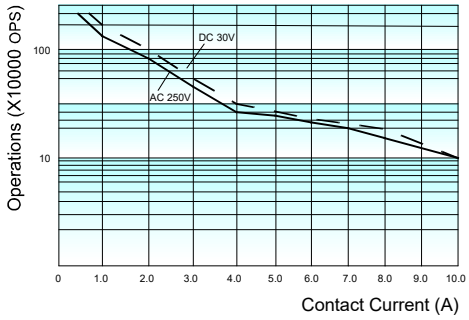
MAXIMUM SWITCHING POWER
(3 Form C)



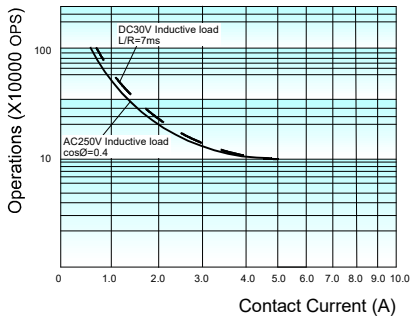
RES. LOAD ENDURANCE CURVE
(2 Form C)



RES. LOAD ENDURANCE CURVE
(3 Form C)



INDUCTIVE LOAD ENDURANCE CURVE
(2 Form C/3 Form C)



Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.