HF32FV-16 SUBMINIATURE HIGH POWER RELAY

File No.: E134517

File No.: 40012204

File No.: CQC14002120720



Features

- 16A switching capability
- Dielectric strength 4kV(between coil and contacts)
- UL insulation system: Class F
- Product in accordance to IEC 62368-1 available
- Products which coincident with TV-8 & TV-10 & TV-12 products are available
- Provides products that meet 16A 1 x 10^5OPS electrical durability
- Provides products that meet dielectric strength of 1.5kV between open contacts

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance[1)]	100mΩ max. (at 1A 6VDC)
Contact material	$AgSnO_2$
Contact rating	16A 250VAC TV-12 TV-10 TV-8
Max. switching voltage	277VAC
Max. switching current	16A
Max. switching power	4432VA
Mechanical endurance[2)]	1 x 10^6OPS
Electrical endurance	High power consumption type: 1 x 10^5OPS (16A 250VAC Resistive load, at room temp., 1s on 9s off) TV-12 Sensitive type: 5x 10^4OPS (16A 250VAC General use, 85°C, 1s on 9s off) 5x 10^4OPS (16A 250VAC Resistive load, 85°C, 1s on 9s off) 1x 10^5OPS (16A 250VAC Resistive load, at room temp., 1s on 9s off) Sensitive type:('590' special code) 3 x 10^4OPS (16A 250VAC,Resistive load, 85°C, 1s on 9s off) TV-8, TV-10, TV-12 Super Sensitive type:('590' special code) 3 x 10^4OPS (16A 250VAC Resistive load, 85°C, 1s on 9s off) TV-8

Notes:1) The data shown above are initial values.
2) Indicators vary by specification; please refer to the specific datasheet for details.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		5ms max.
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 7g
Construction		Flux proofed

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

COIL

Coil power	High power consumption type:Approx. 530mW Sensitive type:Approx.400mW Super sensitive type:Approx.200mW

COIL DATA

High power consumption type/Sensitive type/Super sensitive type

Nominal Voltage VDC	Pick-up Voltage VDC max.[1)]	Drop-out Voltage VDC min.[1)]	Max. Voltage VDC *[2)]	Coil Resistance Ω		
				High power consumption type	Sensitivel Type	Super Sensitivel Type
3	2.25	0.15	3.9	17 x (1±10%)	22 x (1±10%)	45 x (1±10%)
5	3.75	0.25	6.5	47 x (1±10%)	62 x (1±10%)	125 x (1±10%)
6	4.5	0.3	7.8	68 x (1±10%)	90 x (1±10%)	180 x (1±10%)
9	6.75	0.45	11.7	153x (1±10%)	202x (1±10%)	400 x (1±10%)
12	9	0.6	15.6	272x(1±10%)	360x(1±10%)	720x (1±10%)
18	13.5	0.9	23.4	611x(1±10%)	810x(1±10%)	1600x(1±10%)
24	18	1.2	31.2	1087x(1±10%)	1440x(1±10%)	2800x(1±10%)
48	36	2.4	62.4	4347x(1±10%)	5760x(1±10%)	11520x(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.

SAFETY APPROVAL RATINGS

UL/CUL	1 Form A	16A 250VAC at 40˚C(High power consumption type) 16A 250VAC at 85˚C(High power consumption type) 16A 250VAC at 85˚C(Sensitive) 16A 250VAC at 85˚C(Super Sensitive) TV-8 Sensitive'590' special code type TV-10 Sensitive'590' special code type TV-12 Sensitive'590' special code type TV-8 Super Sensitive'590' special code type 1000W Incandescent '590' special code (Sensitive) Electronic Ballast 5A 120VAC '590' special code (Sensitive) 1/2HP 120VAC at 85˚C '590' special code (Sensitive) 1HP 250VAC at 85˚C '590' special code (Sensitive) Electronic Ballast 3A 120VAC '590' special code (Super Sensitive) 1/3HP 120VAC at 85˚C (Super Sensitive) 3/4HP 250VAC at 85˚C (Super Sensitive)
VDE	1 Form A	16A 250VAC at 85˚C(High power consumption type) 16A 250VAC at 85˚C (Sensitive) 16A 250VAC at 85˚C (Super Sensitive)
CQC	1 Form A	16A 250VAC 85˚C(High power consumption type) 16A 250VAC 85˚C (Sensitive) 16A 250VAC 85˚C (Super Sensitive)

Notes: 1) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

HF32FV-16/ 12 -H S L T F (XXX)

Type		
Coil voltage	3, 5, 6,9,12, 18,24,48VDC	
Contact arrangement	**H:** 1 Form A	
Construction	**S:** Plastic sealed	**Nil:** Flux proofed
Coil power	**L:** Sensitive **C:** Super Sensitive **P**: High power consumption	
Contact material	**T:** $AgSnO_2$	
Insulation standard	**F:** Class F	
Special code [1)]	**XXX:** Customer special requirement	**Nil:** Standard

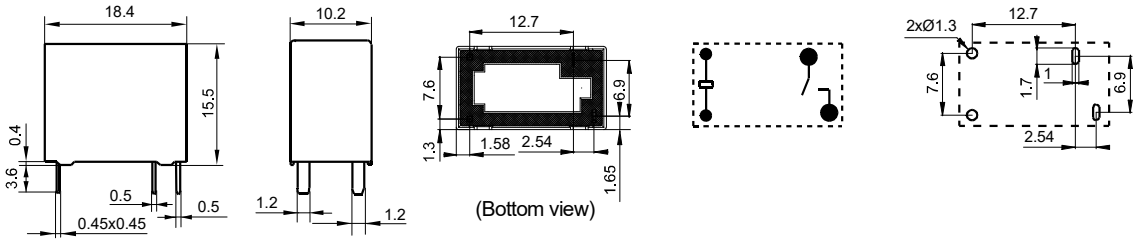
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

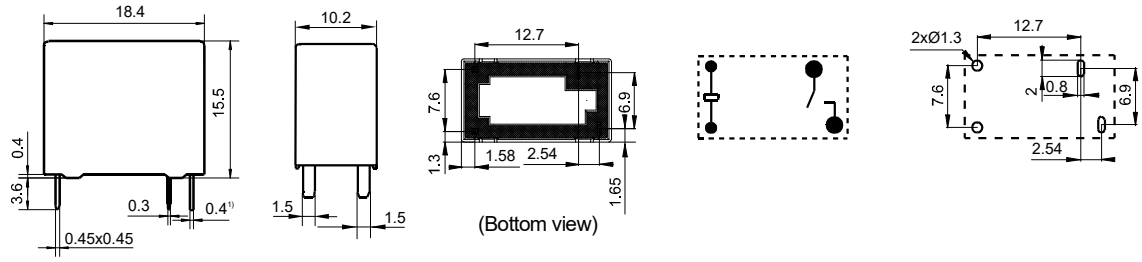
Unit: mm

Outline Dimensions | Wiring Diagram (Bottom view) | PCB Layout (Bottom view)

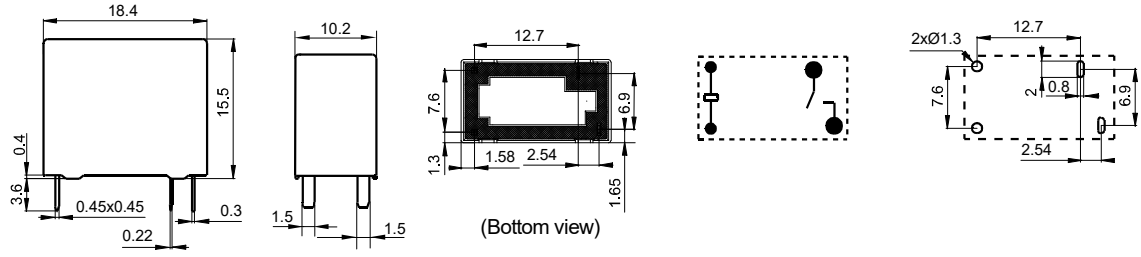
1 Form A (High power consumption type)



1 Form A (Sensitive type)



1 Form A (Super Sensitive type)



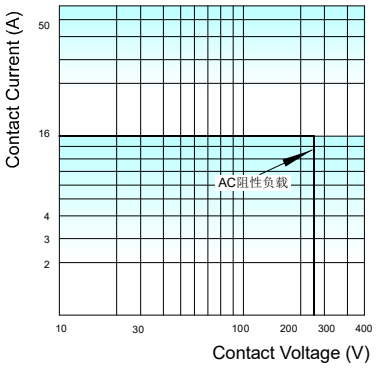
Remark:1) The dimensions are available in two standard specifications (0.3 and 0.4) to meet different application needs. For more detailed information, please contact us.

2) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.

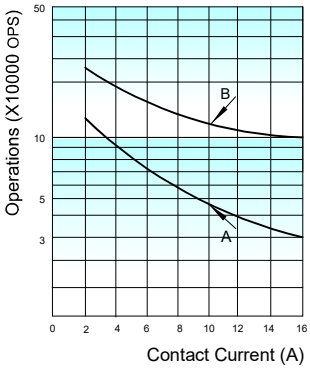
3) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension ＞1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension ＞5mm, tolerance should be ±0.4mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



EDURANCE CURVE

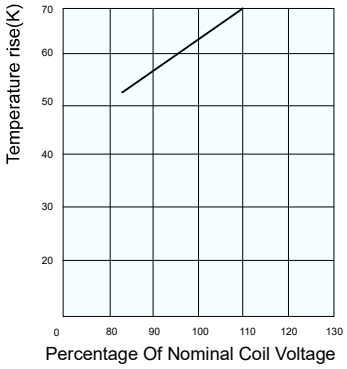


Test conditions:

Curve A:Sensitive type(590),
Super Sensitive type(590),
Resistive load,250VAC,at 85°C ,
1s on 9s off
(the venting-hole should be excised in test.)

Curve B:Sensitive type,
High power consumption type,
Resistive load,250VAC,
at room temp. ,1s on 9s off

COIL TEMPERATURE RISE
(High powerconsumption type/
Sensitive/Super Sensitive type)



Test conditions:85°C 16A

Mounting distance:10mm

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.

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