

HFS32(AC Type)

SOLID STATE RELAY



Vertical



Horizontal



File No.:E133481

Features

- Small dimensions for high packing density PCB assembly or socket mount
- Photo isolation with dielectric strength 2500V
- Full compatibility to the electromechanical relay HF115F and HF41F
- TTL and CMOS compatible
- For interface application between PLC and external loads
- Environmental friendly product (RoHS compliant)

DESCRIPTION

This SPST-NO SSR with small dimensions provides AC output switching for PCB assembly or socket mount occasion, especially for some high density mounting applications. The HFS32's AC input is compatible with 5V, 12V, 24V and 60V logic systems. The relays provide 2500Vrms opto-isolation between input and output.

The relays are full compatibility to the electromechanical standard relay HF115F and HF41F, so is very convenient for using in industrial control.

PRECAUTIONS

1. Soldering must be completed within 10s at 260°C or within 5s at 350°C.
2. The SSR case serves to dissipate heat. When the ambient temperature is high, please refer to the follow up characteristic curves for derating.
3. If the output transient voltage exceeds the normal value, a varistor should be mounted on the SSR output terminal in parallel to prevent the relay being breakdown. 240Va.c. output relays are suggested to use 470Vd.c. Varistors. 380Va.c. output relays are suggested to use 750Vd.c. varistors.
4. Please do not use the relay beyond the descriptions in the data sheet. If it is a must to use it beyond descriptions, please contact Hongfa for more technical support.

INPUT (Ta = 25°C)

Control voltage range	05D	4VDC to 6VDC	
	12D	9.6 VDC to 14.4VDC	
	24D	19.2VDC to 28.8VDC	
	60D	48 VDC to 72VDC	
Must turn on voltage	05D	4VDC	
	12D	9.6VDC	
	24D	19.2VDC	
	60D	48VDC	
Must turn off voltage	Zero cross turn-on	05D	1VDC
		12D	3VDC
		24D	10VDC
		60D	20VDC
	Random turn-on		1VDC
Max. Input current		25mA	
Max. reverse protection voltage	05D	-6VDC	
	12D	-14.4VDC	
	24D	-28.8VDC	
	60D	-72VDC	

OUTPUT (Ta = 25°C)

Operating voltage range	240A□□	48 VDC to 280VAC
	380A□□	48 VDC to 440VAC
Max. transient overvoltage	240A □□	600Vpk
	380A□□	800Vpk
Load current	□□□ A1□	0.1A to 1A
	□□□ A2□	0.1A to 2A
Max. surge current	□□□ A1□	30A
	□□□ A2□	80A
Max. on-state voltage drop		1.2Vr.m.s.
Max. I ² t (10ms, A ² s)	□□□ A1□	4.5
	□□□ A2□	32
Max. turn-on time		1/2cycle+1ms
		1ms
Max. turn-off time		1/2cycle+1ms
Frequency range		47Hz to 63 Hz
Min. off-state dv/dt		100V/μs
Max. Output leakage current		1 mA



HONAF A RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2010 Rev. 1.00

GENERAL (Ta = 25°C)

Dielectric strength (input-output)	2500VAC 1min (240VAC output type)	
	4000VAC 1min (380VAC output type)	
Insulation resistance	1000MΩ (500VDC)	
Max. capacitance (input to output)	5pF	
Vibration resistance	10 Hz to 55Hz 1.5mm DA	
Ambient temperature	operating	-30°C to 80°C
	storage	-30°C to 100°C
Ambient humidity	45% to 85% RH	
Unit weight	Approx. 11g (Horizontal), Approx. 4g (Vertical)	
Shock resistance	Acceleration 980m/s ² , continuous surge 6ms	

ORDERING INFORMATION

Type	HFS32/ 24D- 240A 1 Z H (XXX)						
Input voltage	05D: 5VDC	12D: 12VDC					
	24D: 24VDC	60D: 60VDC					
Load voltage	240A: 240VAC		380A: 380VAC (Only for Vertical type)				
Load current	1: 1A		2: 2A				
Zero cross function	Z: Zero cross turn-on		P: Random turn-on				
Mounting mode	H: Horizontal type		Nil: Vertical type				
Special request code							

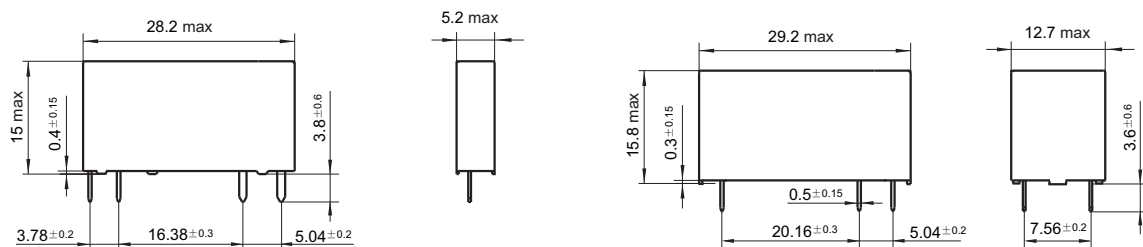
Notes : 1) There are HFS32/□□D-240A1Z, HFS32/□□D-240A2Z, HFS32/□□D-240A2ZH, HFS32/□□D-240A1P, HFS32/□□D-240A2P, HFS32/□□D-240A2PH, HFS32/□□D-380A1Z some specifications available.

2) The HFS32 vertical type is full compatible to the electromechanical standard relay HF41F by pins, and the horizontal type is compatible to the HF115F too.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

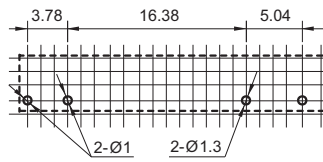


Vertical Type

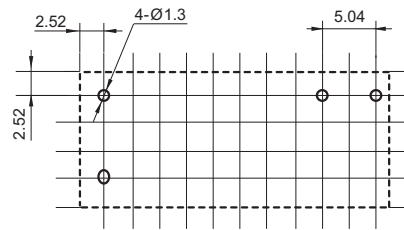
Horizontal Type

Mounting Holes Layout

PCB Layout
(Bottom view)

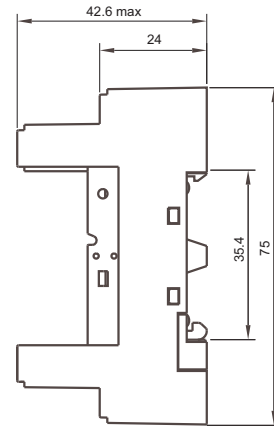
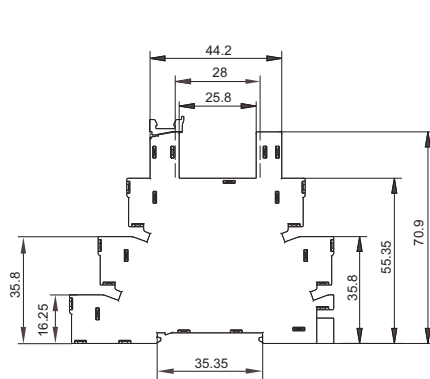


Vertical Type

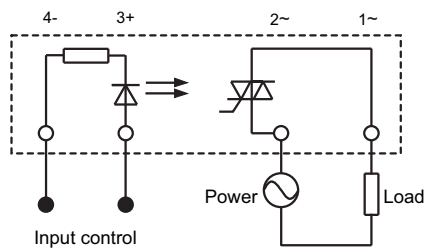


Horizontal Type

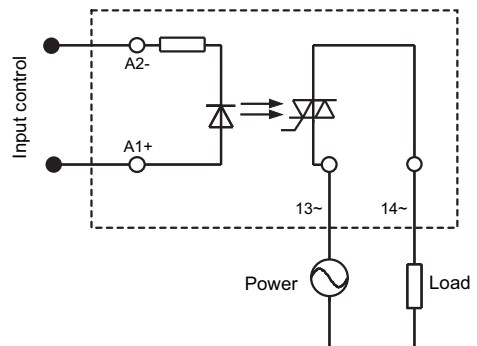
Socket Layout



Wiring Diagram



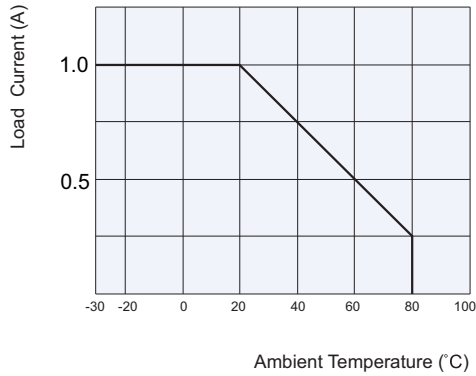
Vertical and AC output Type



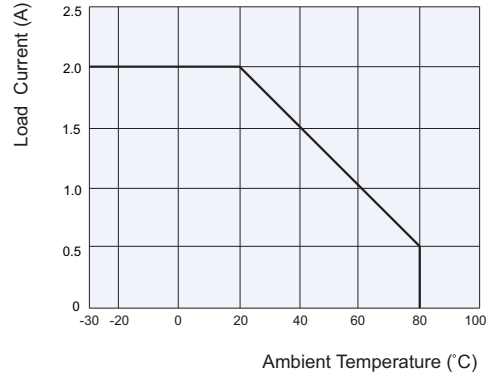
Horizontal and AC output Type

CHARACTERISTIC CURVES

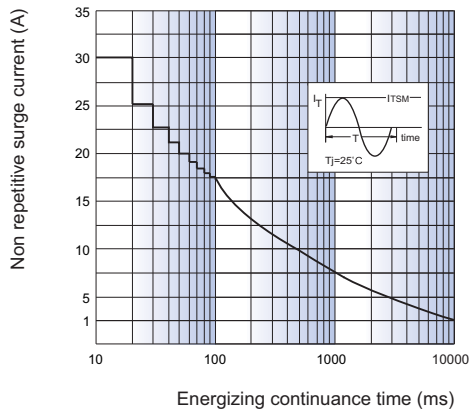
Max. Load Current vs. Ambient Temp. (1A)



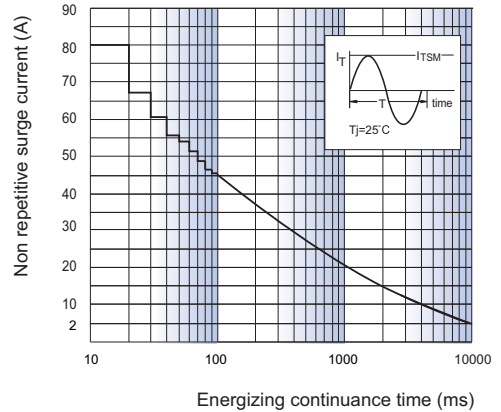
Max. Load Current vs. Ambient Temp. (2A)



Max. surge current VS. Continuance time (1A)



Max. surge current VS. Continuance time (2A)



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.