

HFS40A

SOLID STATE RELAY



Features

- Dielectric strength 2500V
- LED status indicator
- Photo isolation
- Built-in snubber
- Zero cross or random turn-on
- Printed circuit board mount
- Environmental friendly product (RoHS compliant)

INPUT (Ta = 25°C)

Control voltage range	05D	4VDC to 6VDC
	12D	9.6VDC to 14.4VDC
	24D	19.2VDC to 28.8VDC
Must operate voltage	05D	4VDC
	12D	9.6VDC
	24D	19.2VDC
Must release voltage	05D	1.0VDC
	12D	
	24D	
Max. reverse protection voltage	05D	-6VDC
	12D	-14.4VDC
	24D	-28.8VDC
Max. input current		20mA
Input Resistance	05D	180Ω
	12D	680Ω
	24D	1.5kΩ

GENERAL (Ta = 25°C)

Dielectric strength (input to output)		2500VAC, 50Hz/60Hz, 1min
Insulation resistance		1000MΩ (at 500VDC)
Max. capacitance (input to output)		8pF
Vibration resistance		10Hz to 55Hz 1.5mm DA
Shock resistance		980m/s ²
Ambient temperature	Operating	-30°C to 80°C
	Storage	-30°C to 100°C
Ambient humidity		45% to 85% RH
Unit weight		Approx. 18g

DESCRIPTION

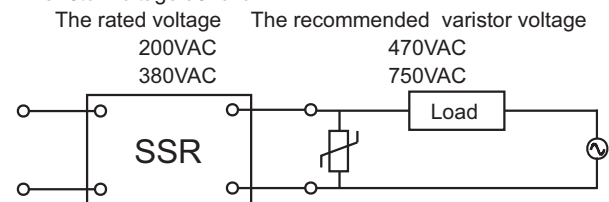
This SPST-NO printed circuit board mount SSR provides AC output switching in a high density package. The HFS40A's DC input is compatible with 5V, 12V and 24V logic systems. The relays include a LED indicator to provide input status information. All models include an internal snubber. The relays provide 2500VAC opto-isolation, between input and output. Encapsulation, thermally conductive epoxy.

APPLICATIONS

- I/O interface
- Programmable controllers

PRECAUTIONS

1. Soldering must be completed within 10s at 260°C or less or within 5s at 350°C or less.
2. The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, reduce the load current by half.
3. When using the HFS40A series for an AC load with a peak voltage of more than the rated, connect the load terminals of the relay to an inrush absorber (varistor). The recommended varistor voltage as follows:



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.

OUTPUT (Ta = 25°C)

Load voltage range	HFS40A/□□-220A□□□	48VAC to 280VAC
	HFS40A/□□-380A□□□	48VAC to 440VAC
Load current range	HFS40A/□□-□□2□□	0.1A to 2A
	HFS40A/□□-□□3□□	0.1A to 3A
Max. surge current (10ms)	HFS40A/□□-□□2□□	30A _{pk}
	HFS40A/□□-□□3□□	120A _{pk}
Max. I ² t for fusing (10ms)	HFS40A/□□-□□2□□	3.1A ² s
	HFS40A/□□-□□3□□	78A ² s
Max. leakage current		5mA
Max. on-state voltage drop		1.5V _{r.m.s.}
Max. turn-on time	Zero cross turn-on	1/2 cycle + 1ms
	Random turn-on	1ms
Max. turn-off time		1/2 cycle + 1ms
Max. transient overvoltage	HFS40A/□□-220A□□□	600V _{pk}
	HFS40A/□□-380A□□□	800V _{pk}
Min. off-state dv/dt		100V/μs
Min. power factor		0.5



HONGFA RELAY

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

2010 Rev. 1.00

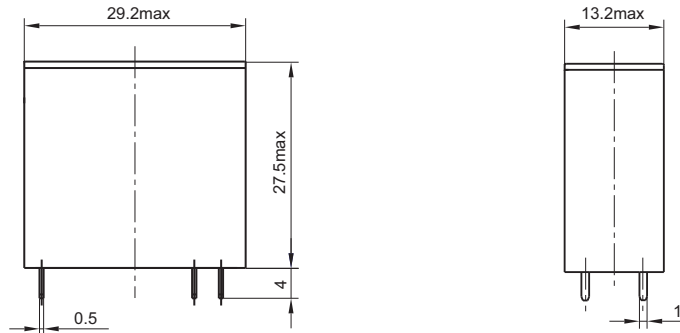
ORDERING INFORMATION

Type	HFS40A / 05D- 220 A 2 Z- L (XXX)					
Input voltage	05D:4VDC to 6VDC 12D:9.6VDC to 14.4VDC 24D:19.2VDC to 28.8VDC					
Load voltage	220: 220V		380: 380V			
Load voltage form	A: AC					
Load current	2: 2A		3: 3A			
Zero cross function	Z: Zero cross turn-on			P: Random turn-on		
LED indicator	L: With LED					
Customer special code						

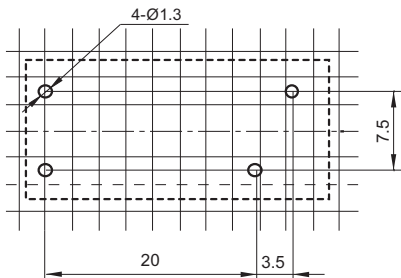
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

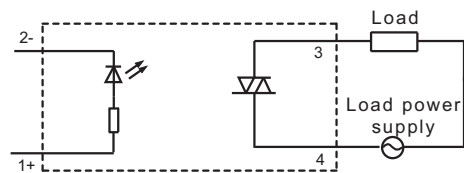
Outline Dimensions



PCB Layout (Bottom view)

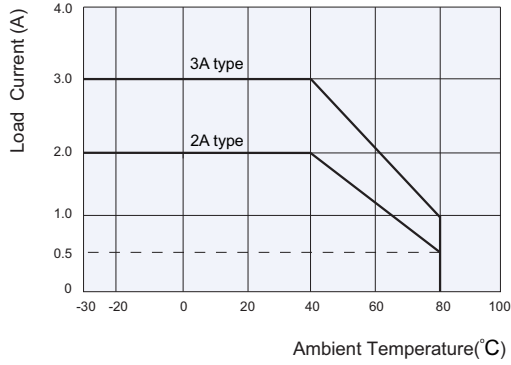


Wiring Diagram

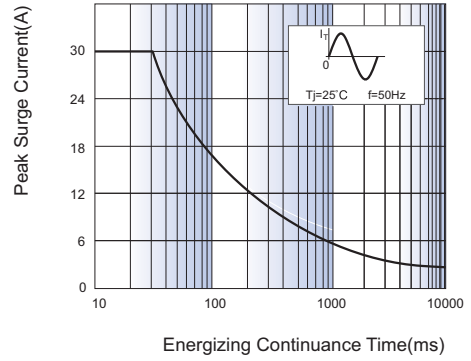


CHARACTERISTIC CURVES

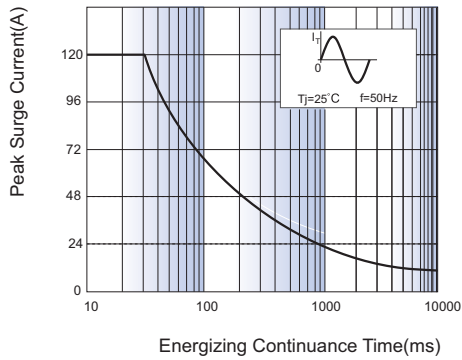
Max. Load Current
vs. Ambient Temperature



Max. Permissible Non-repetitive
Peak Surge Current vs. Continuance Time
(2A type)



Max. Permissible Non-repetitive
Peak Surge Current vs. Continuance Time
(3A type)



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.