

# HFS40

# SOLID STATE RELAY



## Features

- 2500V dielectric strength
- LED status indicator
- Photo isolation
- Bipolar transistor output
- Printed circuit board mount
- Environmental friendly product (RoHS compliant)

## INPUT (TA = 25°C)

Control voltage range	05D	4 to 6VDC
	12D	9.6 to 14.4VDC
	24D	19.2 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

## DESCRIPTION

This SPST-NO printed circuit board mount SSR provides DC output switching in a high density package. The HFS40's DC input is compatible with 5, 12 and 24V logic systems. The relays include a LED indicator to provide input status information. The relays provide 2500VAC opto-isolation, between input and output. Encapsulation, thermally conductive epoxy.

## APPLICATIONS

- I/O interface
- Programmable controllers

## OUTPUT (TA = 25°C)

Load voltage range	50D: 3 to 52.8VDC
	100D: 3 to 125VDC
Load current range	0.01 to 2A
Max. surge current (10ms)	8A
Max. leakage current	0.1mA
Max. on-state voltage drop	1.5Vrms
Max. turn-on time	1ms
Max. turn-off time	1ms
Max. transient overvoltage	50D: 80Vpk
	100D: 125Vpk

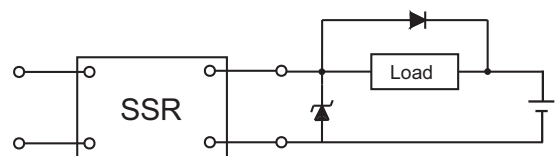
## GENERAL (TA = 25°C)

Dielectric strength	2500VAC, 50/60Hz, 1min	
Insulation resistance (input to output)	1000MΩ (at 500VDC)	
Max. capacitance (input to output)	5pF	
Shock resistance	980m/s <sup>2</sup>	
Ambient temperature	Operating	-30°C to 80°C
	Storage	-30°C to 100°C
Ambient humidity	45% to 85% RH	
Unit weight	Approx. 18g	

## PRECAUTIONS

1. Soldering must be completed within 10 seconds at 260°C or less or within 5 seconds 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 HFS40 series for a DC load with a peak voltage of more than rated voltage, connect the load terminals of the relay to an inrush absorber (varistor).
4. Before connecting a load that generates a high surge current, such as a lamp load to the SSR, make sure that the SSR can withstand the surge current of the load.
5. The product data sheet shows the non-repetitive peak value of the surge current that flows through the SSR. Normally, use 1/2 the non-repetitive peak surge current as the standard value.

If a surge current exceeding that value is expected, connect a quick-blowing fuse to protect the SSR.



HONGFA RELAY

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

2008 Rev. 1.00

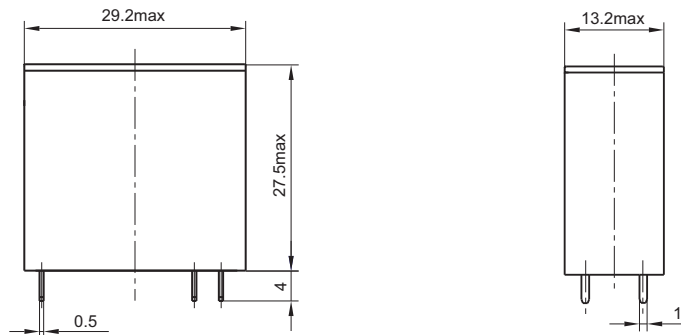
## ORDERING INFORMATION

Type	HFS40 / 05 D- 50 D 2 T- L (XXX)						
Input voltage	05: 4 to 6V		12: 9.6 to 14.4V				
	24: 19.2 to 28.8V						
Input voltage form	D: DC						
Load voltage	50: 50V		100: 100V				
Load voltage form	D: DC						
Load current	2: 2A						
Output component	T: Transistor output						
LED indicator	L: With LED						
Customer special code							

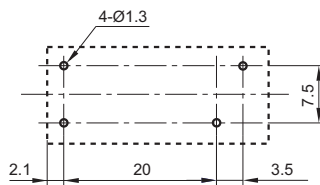
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

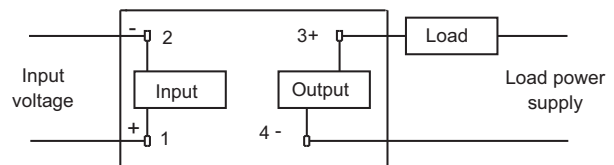
### Outline Dimensions



### PCB Layout (Bottom view)

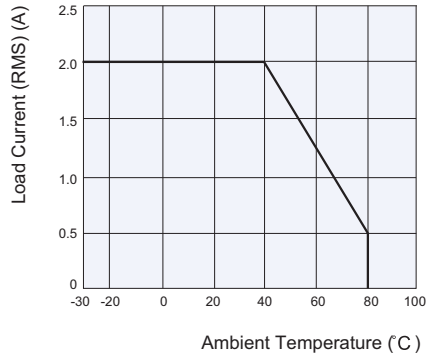


### Wiring Diagram

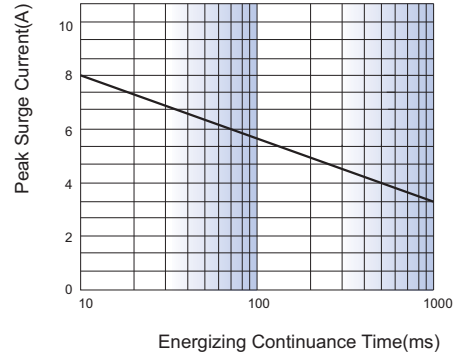


## CHARACTERISTIC CURVES

Max. Load Current  
vs. Ambient Temperature



Max. Permissible Non-repetitive  
Peak Surge Current vs. Continuance Time



### 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.