

HFS34

SOLID STATE RELAY



File No.: E134517



File No.: R50166328



File No.: CQC08001023650



Features

- Dielectric strength 4000V
- Photo isolation
- Zero cross or random turn-on
- Removable finger proof cover available
- Double SCR AC output
- Panel mount
- DC or AC control
- Environmental friendly product (RoHS compliant)

INPUT (Ta = 25°C)

Control voltage range (DC input)	3VDC to 32VDC (Without LED) 4VDC to 32VDC (With LED)
Control voltage range (AC input)	90VAC to 280VAC
Must operate voltage (DC input)	3VDC (Without LED) 4VDC (With LED)
Must operate voltage (AC input)	90VAC
Must release voltage (DC input)	1VDC
Must release voltage (AC input)	10VAC
Max. input current (DC input)	25mA(32VDC)
Max. reverse protection voltage (DC input)	- 32VDC

GENERAL (Ta = 25°C)

Dielectric strength (at 50/60Hz, 1min)	Input to output	4000VAC
	Input/output-case	2500VAC
Insulation resistance		1000MΩ (at 500VDC)
Max. capacitance (input to output)		8pF
Ambient temperature	Operating	-30°C to 80°C
	Storage	-30°C to 100°C
Ambient humidity		45% to 85% RH
Unit weight		Approx. 88g

OUTPUT (Ta = 25°C)

Type	A -240 D -240		D -380			A -480 D -480			D -600	
Load voltage range	48VAC to 280VAC		48VAC to 440VAC			48VAC to 530VAC			48VAC to 660VAC	
Max. transient voltage	600Vpk		800Vpk			1200Vpk			1600Vpk	
Load current	10A	15A	20A	25A	40A	50A	60A	70A	80A	100A
Max. surge current (10ms)	140Apk	188Apk	255Apk	300Apk	400Apk	500Apk	600Apk	700Apk	800Apk	1000Apk
Max. I ² t for fusing (10ms, A ² s)	98	176	325	450	800	1250	1800	2450	3200	5000
Max. leakage current	5mA									
Max. on-state voltage drop	1.7Vr.m.s.									
Min. power factor	0.5									
Max. turn-on time	Random turn-on (DC input)					1ms				
	Zero cross turn-on (DC input)					1/2cycle+1ms				
	AC input type					20ms				
Max turn-off time	DC input					1/2cycle+1ms				
	AC input					40ms				
Frequency range	47Hz to 63Hz									
Min. off-state dv/dt	500V/μs									



HONGFA RELAY

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

2010 Rev. 1.00

DESCRIPTION

The HFS34 offer 3VDC to 32VDC or 90VAC to 280VAC input control, with outputs rated from 10A to 100A. SCR output provides high dv/dt capability more than 500V/us. All models include an internal snubber. The relays provide 4000VAC opto-isolation between input and output. Outline dimension is 58.4mmX45.7mmX22.9mm.

PRECAUTIONS

1. When choosing a SSR, please notice the actual load current and working ambient temperature. To use the SSR correctly, please refer to CHARACTERISTIC DATA and make sure the heat sink size when it works in full load current.
2. Apply heat-radiation silicon grease or a heat conductive sheet between the SSR and heat sink. There will be a space between the SSR and heat sink Attached to the SSR. Therefore, the generated heat of the SSR cannot be radiated properly without the grease. As a result, the SSR may be overheated and damaged or deteriorated.

3. Tighten the SSR terminal screws properly. If the screws are not tight, the SSR will be Damaged by heat generated when the power in ON. Perform wiring using the tightening torque shown in the following table.

Screw size	Recommended tightene torque
M3	0.58 N·m to 0.98 N·m
M4	0.98 N·m to 1.37 N·m

4. It's recommended to use the matched heatsink by Hongfa. When a user need use home-made heatsink, it's needed to ensure that the SSR base temperature does not exceed 85°C.
5. 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.

ORDERING INFORMATION

Type	HFS34 / D- 240 A 40 Z S -Y L (XXX)									
Input voltage	D: 3VDC to 32VDC (Without LED) 4VDC to 32VDC (With LED) A: 90VAC to 280VAC									
Load voltage	240: 48V to 280V 480: 48V to 530V	380: 48V to 400V 600: 48V to 600V								
Load voltage form	A: AC									
Load current	10: 10A 50: 50A	15: 15A 60: 60A	20: 20A 70: 70A	25: 25A 80: 80A	40: 40A 100: 100A					
Zero cross function	Z: Zero cross turn-on P: Random turn-on									
Output component	S: SCRS									
Overvoltage protection	Y: Varistor	T: TVs	Nil: None							
LED indicator	L: With LED Nil: Without LED									
Customer special code										

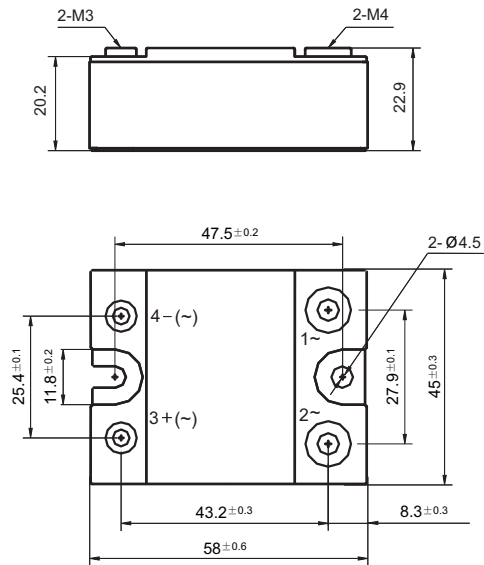
Notes: (1) With Overvoltage Protection function, the relay will switch off automatically. Overvoltage range for different loads are as follows: D-240A type is 400Vdc to 600Vdc, D-380A type is 600Vdc to 800Vdc, D-480A type is 850Vdc to 1200Vdc. This function is not suitable for capacitive load.

(2) Available parts are: HFS34/D-240A□□□S-□□, HFS34/D-380A□□□S-□□, HFS34/D-480A□□□S-□□, HFS34/D-600A40ZS-□□, HFS34/D-600A50ZS-□□, HFS34/D-600A60ZS-□□, HFS34/D-600A70ZS-□□, HFS34/D-600A80ZS-□□, HFS34/D-600A100ZS-□□, HFS34/A-240A40ZS-Y□, HFS34/A-240A40ZS-□, HFS34/A-240A50ZS-Y□, HFS34/A-240A50ZS-□, HFS34/A-240A60ZS-Y□, HFS34/A-240A60ZS-□, HFS34/A-240A70ZS-Y□, HFS34/A-240A70ZS-□, HFS34/A-240A80ZS-Y□, HFS34/A-240A80ZS-□, HFS34/A-240A100ZS-Y□, HFS34/A-240A100ZS-□, HFS34/A-480A40ZS-Y□, HFS34/A-480A40ZS-□, HFS34/A-480A50ZS-Y□, HFS34/A-480A50ZS-□, HFS34/A-480A60ZS-Y□, HFS34/A-480A60ZS-□, HFS34/A-480A70ZS-Y□, HFS34/A-480A70ZS-□, HFS34/A-480A80ZS-Y□, HFS34/A-480A80ZS-□, HFS34/A-480A100ZS-Y□, HFS34/A-480A100ZS-□.

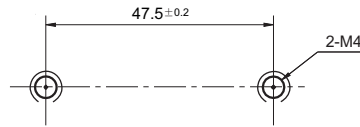
OUTLINE DIMENSIONS, WIRING DIAGRAM AND MOUNTING HOLES

Unit: mm

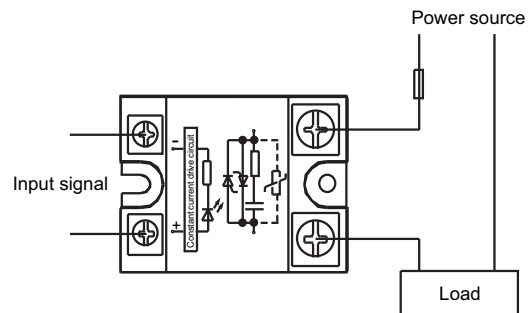
Outline Dimensions



Mounting Hole Layout

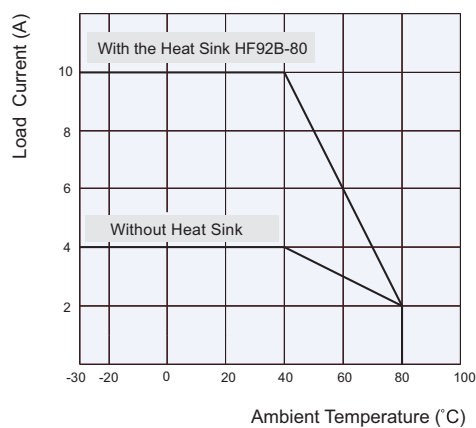


Wiring Diagram

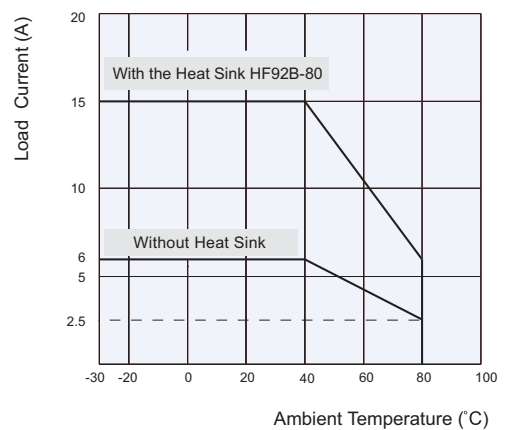


CHARACTERISTIC CURVES

Max. Load Current vs. Ambient Temp. (10A)

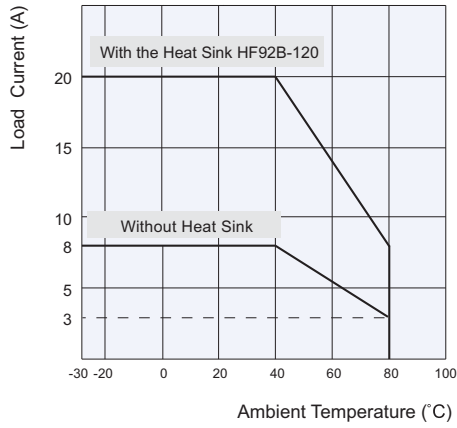


Max. Load Current vs. Ambient Temp. (15A)

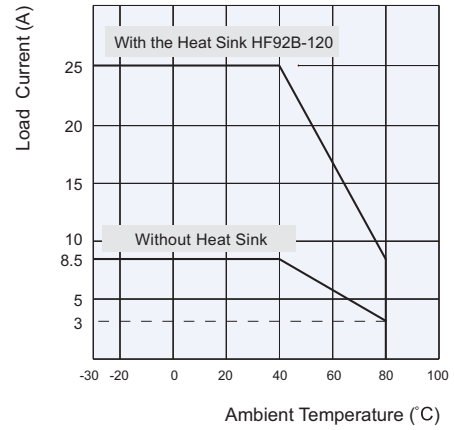


CHARACTERISTIC CURVES

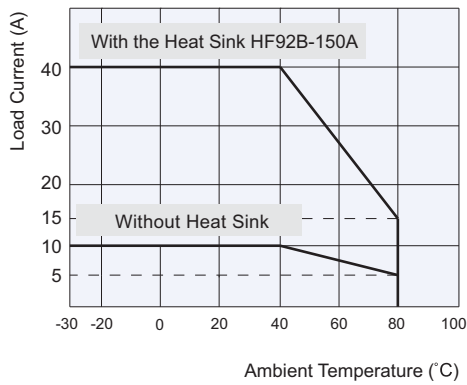
Max. Load Current vs. Ambient Temp. (20A)



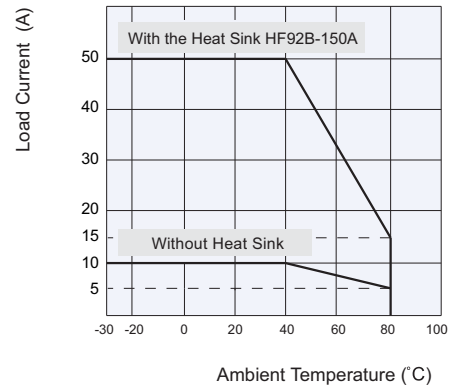
Max. Load Current vs. Ambient Temp. (25A)



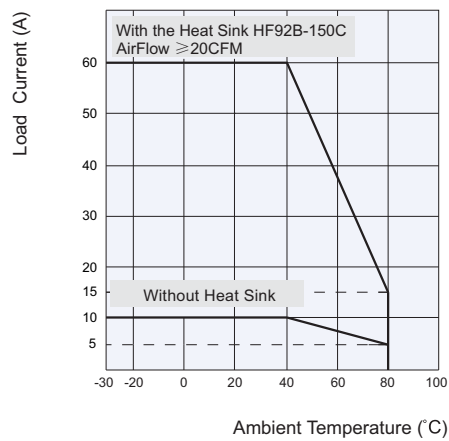
Max. Load Current vs. Ambient Temp. (40A)



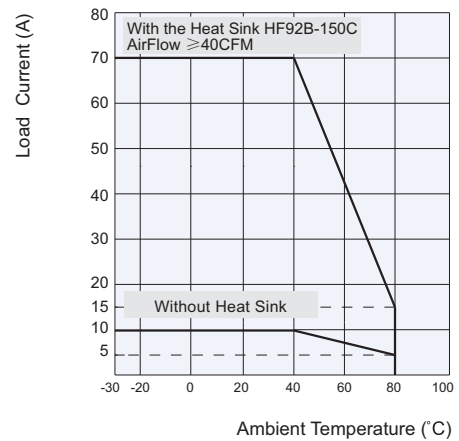
Max. Load Current vs. Ambient Temp. (50A)



Max. Load Current vs. Ambient Temp. (60A)

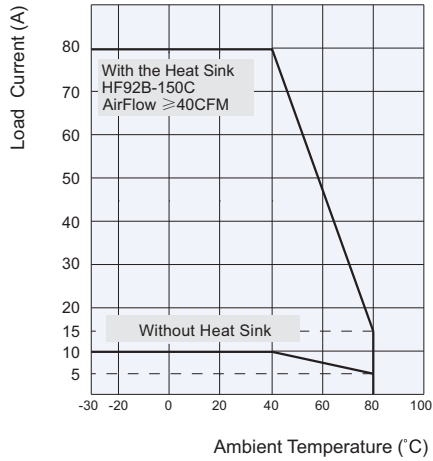


Max. Load Current vs. Ambient Temp. (70A)

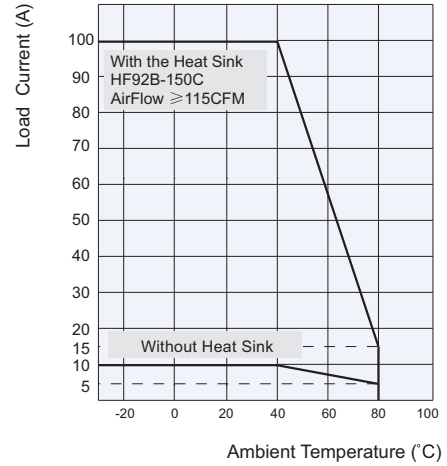


CHARACTERISTIC CURVES

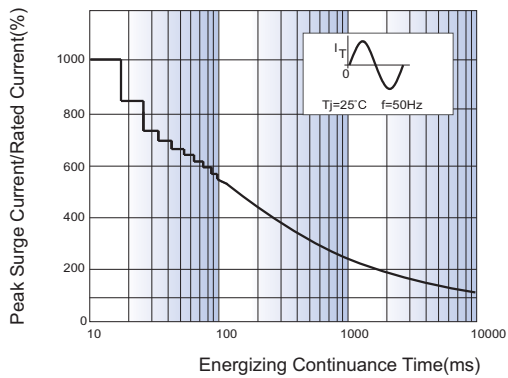
Max. Load Current vs. Ambient Temp. (80A)



Max. Load Current vs. Ambient Temp. (100A)



Max. Permissible Non-repetitive Peak Surge Current rate 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.

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