

**HFS41 (JGX-41F)****SOLID STATE RELAY**

File No.: E133481



File No.: J50061405



File No.: CQC03001006581

**Features**

- Input: DC control
- Double SCR AC output or TRIAC AC output
- 4000V dielectric strength
- Printed circuit board mount
- RoHS compliant

**INPUT (TA = 25°C)**

Input voltage	1D	3 to 15VDC
	2D	15 to 32VDC
Must operate voltage	1D	3VDC
	2D	15VDC
Must release voltage		1.0VDC
Max. Input current	1D	40mA
	2D	20mA

**GENERAL (TA = 25°C)**

Dielectric strength (input-output)	4000VAC, 50/60Hz 1min
Insulation resistance	1000MΩ (at 500VDC)
Vibration resistance	10 to 55Hz 1.5mm DA
Ambient operating temperature range	-30°C to 80°C
Ambient storage temperature range	-30°C to 100°C
Ambient humidity	45% to 85% RH
Unit weight	Approx. 15g

**OUTPUT (TA = 25°C)**

Load voltage range		48 to 280VAC (240VAC rated voltage)
		48 to 440VAC (380VAC rated voltage)
		48 to 530VAC (480VAC rated voltage)
Load current range		0.1 to 5A
Max. surge current (10ms)		Triac output: 10 times of rated current SCR output: 250A <sub>pk</sub>
Max. off-state leakage current		1.5mA
Max. on-state voltage drop		1.5V <sub>rms</sub>
Max. turn-on time	Zero-cross	1/2 cycle + 1ms
	Random	1ms
Max. turn-off time		1/2 cycle + 1ms
Max. transient overvoltage		600V <sub>pk</sub> (at 240VAC rated voltage)
		800V <sub>pk</sub> (at 380VAC rated voltage)
		1200V <sub>pk</sub> (at 480VAC rated voltage)
Min. off-state dv/dt		200V/μs
Min. power factor		0.5

**DESCRIPTION**

HFS41 pin-out is compatible with standard OAC type I/O modules, and all models are available with random turn-on as an alternative to zero-cross turn-on. The HFS41 SSR range offers a choice of 240VAC, 380VAC, 480VAC versions. Input Voltage specifications have 3 to 15VDC and 15 to 32VDC. All models except the 480VAC type include an internal snubber.

**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. The input circuitry does not incorporate a circuit protecting the SSR from being damaged due to a reversed connection. Make sure that the polarity is correct when connecting the input lines.
4. When using the HFS41 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). For 220VAC the recommended varistor voltage is 470V; For 380VAC, the recommended varistor voltage is 750V.



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 1.10

## ORDERING INFORMATION

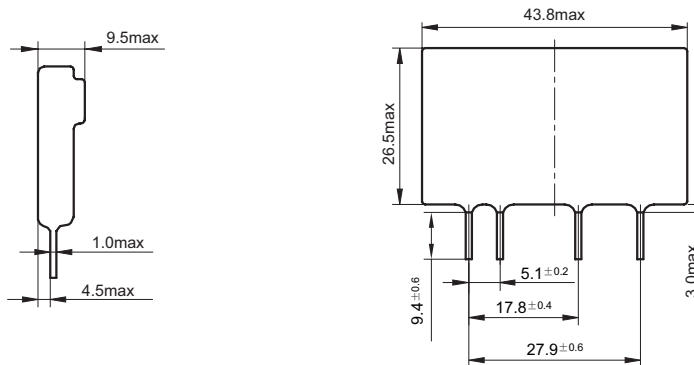
Type	HFS41 / 2 D-240 A 5 Z S- N G (XXX)						
Input voltage	1: 3 to 15V 2: 15 to 32V						
Input voltage form	D: DC						
Load voltage	240: 240V 380: 380V 480: 480V						
Load voltage form	A: AC						
Load current	3: 3A 4: 4A 5: 5A						
Zero cross function	Z: Zero cross turn-on P: Random cross turn-on						
Output component	S: SCR Nil: TRIAC						
RC snubber	N: Without RC snubber Nil: With RC snubber						
Sead form	G: Epoxy resin vacuum-dipped						
Customer special code	Only for special requirements, e.g. (555) stands for RoHS compliant						

Notes: HFS41 is an environmental friendly product, please mark special code (555) when order.

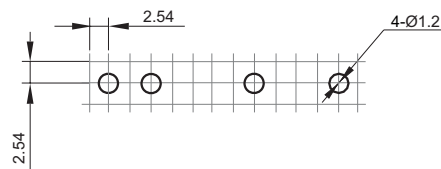
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

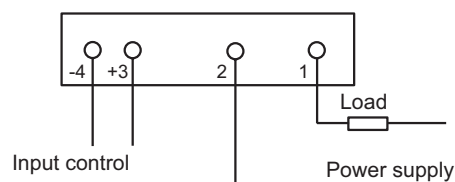
Outline Dimensions



PCB Layout  
(Bottom view)



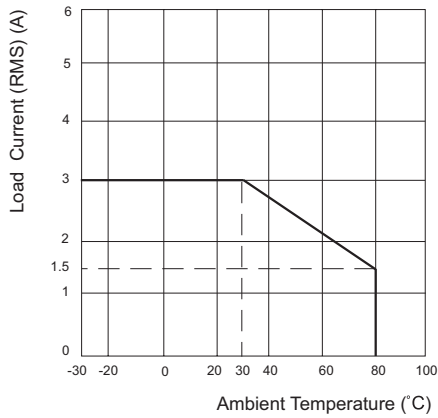
Wiring Diagram



## CHARACTERISTIC CURVES

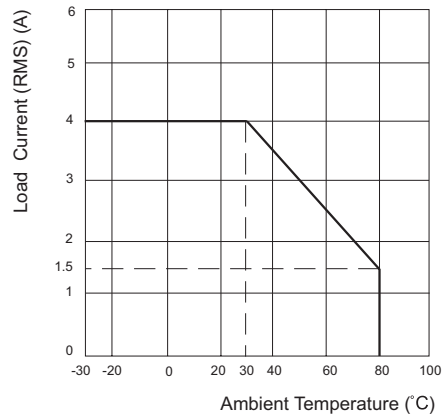
Max. Load Current vs. Ambient Temp. (3A)

HFS41/□D-□□3□-□G



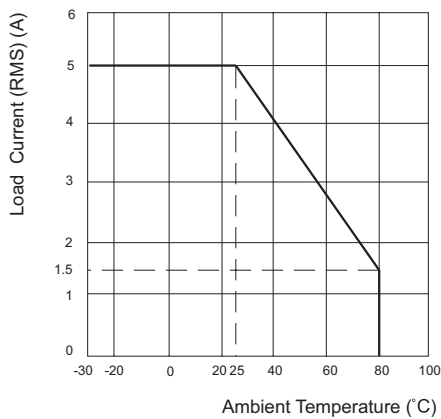
Max. Load Current vs. Ambient Temp. (4A)

HFS41/□D-□□4□-□G

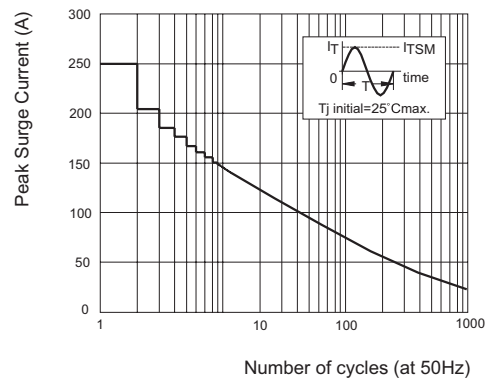


Max. Load Current vs. Ambient Temp. (5A)

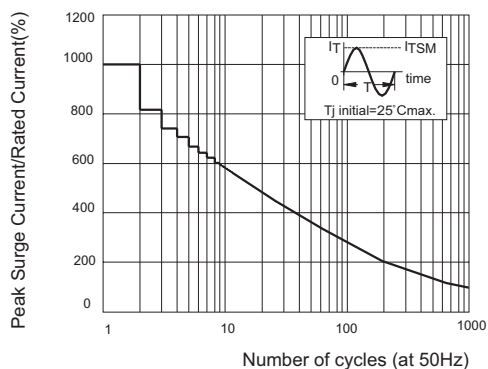
HFS41/□D-□□5□-□G



Max. Permissible Non-repetitive Peak Surge Current vs. Number of Cycles (SCR AC switch output)



Max. Permissible Non-repetitive Peak Surge Current vs. Number of Cycles (TRIAC AC switch output)



### 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.