HFS4(JGC-4F) SOLID STATE RELAY

File No.: E133481

File No.: R2024431

File No.: CQC02001001946

Features

- DC input-AC output for 2A load at 25˚C
- Photo isolation
- Built-in snubber
- Zero cross or random turn-on
- Printed circuit board mount
- 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		1.0VDC
Max. input current		15mA

OUTPUT (TA = 25˚C)

Load voltage range		75 to 280VAC
Load current range		0.1 to 2A
Max. surge current (10ms)		25Apk
Max. leakage current		1.5mA
Max. on-state voltage drop		1.5Vrms
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		600Vpk
Min. off-state dv/dt		100V/μs
Max. zero-cross overvoltage		±15V
Min. power factor		0.5

GENERAL (TA = 25˚C)

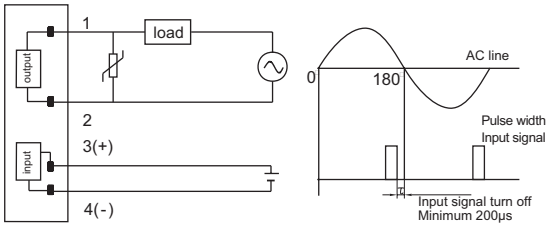
Dielectric strength (input to output)		2000VAC, 50/60Hz, 1min
Insulation resistance		1000MΩ (at 500VDC)
Max. capacitance (input to output)		5pF
Vibration resistance		10 to 55Hz 1.5mm DA
Shock resistance		1000m/s²
Ambient temperature	Operating	-30˚C to 80˚C
	Storage	-30˚C to 100˚C
Ambient humidity		45% to 85% RH
Unit weight		Approx. 6g

DESCRIPTION

This SPST-NO printed circuit board mount SIP SSR provides AC output switching in a high density package.The HFS4's DC input is compatible with 5, 12 and 24V logic systems .All models include an internal snubber.The relays provide 2000VAC opto-isolation,between input and output. Encapsulation,thermally conductive epoxy.

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.
4. Make sure that the polarity is correct when connecting the input lines.
5. When using the HFS4 series for an AC load with a peak voltage of more than 450V,connect the load terminals of the relay to an inrush absorber(varistor). The recommended varistor voltage, 440 to 470V.
6. The load terminals are internally connected to a snubber circuit that absorb noise. However, if wiring from these terminals is laid with or placed in the same duct as high-voltage or power lines, noise may be induced, causing the SSR to operate irregularly or malfunction.
7. When using the HFS4 series in phase control applications, at a phase control angle close to 180 degrees the relay's input signal turn off at the trailing edge of the AC sine wave must be limited to end 200μs before AC zero cross. This assures that the relay has time to switch off. Shorter times may cause loss of control at the following half cycle.
8. Terminal arrangement



ORDERING INFORMATION

	HFS4 /	12	D	1	T	(XXX)

Type

Input voltage **05**: 4 to 6V **12**: 9.6 to 14.4V **24**: 19.2 to 28.8V

Input voltage form **D**: DC

Zero cross function **0**: Zero cross turn-on **1**: Random turn-on

Termination **T**: T type **M**: M type (See the following)

Customer special code Only for special requirements, e.g. (555) stands for RoHS compliant

Notes: HFS4 is an environmental friendly product, please mark special code (555) when order.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

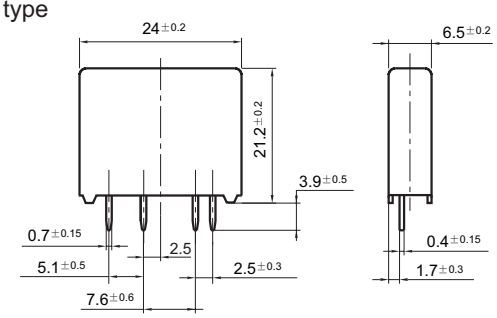
Unit: mm

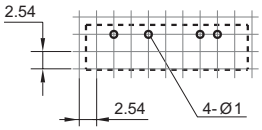
Outline Dimensions

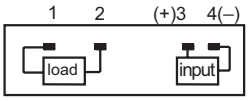
PCB Layout
(Bottom view)

Wiring Diagram
(Bottom view)

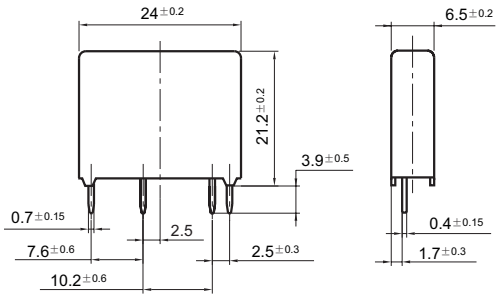
T type

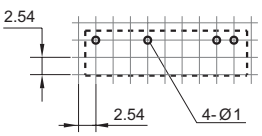


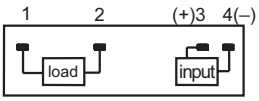




M type

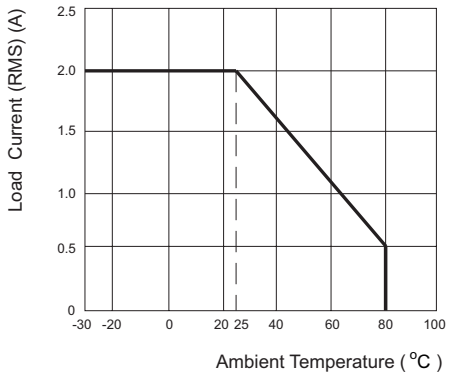




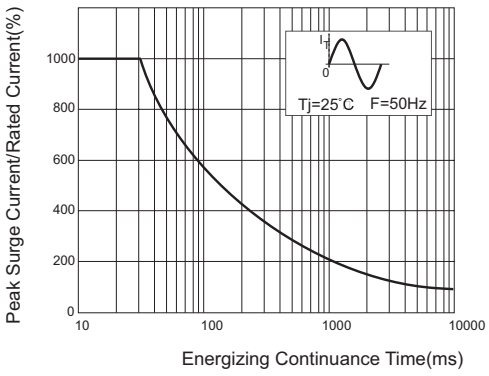


CHARACTERISTIC CURVES

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.