HFS5(JGC-5F) SOLID STATE RELAY

File No.: R2024431

File No.: CQC02001001943

Features

- 2500V dielectric strength
- 600V blocking voltage
- Photo isolation
- 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	Max. 4VDC
	12D	Max. 9.6VDC
	24D	Max. 19.2VDC
Must release voltage		Min. 1.0VDC
Typical input current		15mA

OUTPUT

Load voltage range (at 47 to 63Hz)		75 to 264VAC
Load current range		0.1 to 2A
Max. surge current (10ms)		25Apk
Max. leakage current		1.5mA
Max. on-state voltage drop		1.5VAC
Max. turn-on time	Zero cross turn-on	10ms
	Random turn-on	1ms
Max. turn-off time		10ms
Max. transient overvoltage		600Vpk
Min. off-state dv/dt		100V/μs
Max. zero cross over voltage		±15V
Min. power factor		0.5

GENERAL

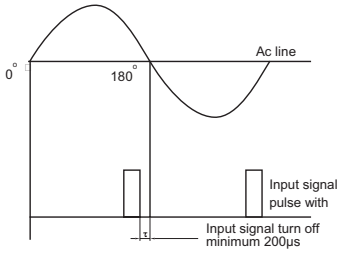
Dielectric strength (input to output)		2500VAC, 50 / 60Hz, 1min.
Insulation resistance		1000MΩ (at 500VDC)
Max. capacitance (input to output)		5pF
Vibration durability		10 to 55 HZ 1.5mm DA
Shock durabilety		1000m/s²
Ambient temperature	Operating	-30°C to +85°C
	Storage	-30°C to +100°C
Ambient Humidity		45 to 85% RH
Unit weight		Typ. 6g

DESCRIPTION

This SPST-NO printed circuit board mount SIP SSR provides AC output switching in a high density package.The HFS5's DC input is compatible with 5, 12 and 24V logic systems.The relays provide 2500VAC 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 incorporporate 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 HFS5 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 is 470V.
6. The HFS5 series is not internally connected to a snubber circuit that absorb noise.Make sure that a snubber circuit is connected to the relay's load terminals.
7. When using the HFS5 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 as shown in bellow Figure .This assures that the relay has time to switch off. Shorter times may cause loss of control at the following half cycle.



ORDERING INFORMATION

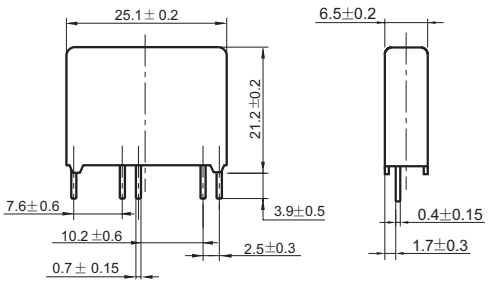
	HFS5 /	05	D	0	T	XXX
Type						
Input voltage	**05**: 4 to 6V **12**: 9.6 to 14.4V **24**: 19.2 to 28.8V					
Input voltage form	**D**: DC					
Zero cross function	**0**: Zero cross turn-on **1**: Random turn-on					
Termination	**T**: T type (See the following)					
Special request code	(Only for special requirements, e.g. 555 stand for RoHS compliant)					

Notes: HFS5 is an environmental friendly product, please mark special code (555) when order.

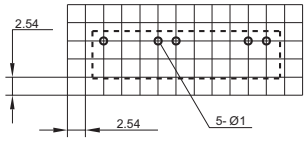
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

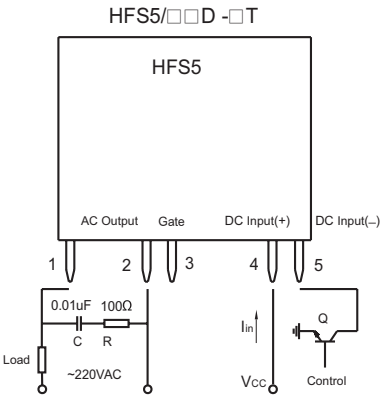
Outline Dimensions



PCB Layout

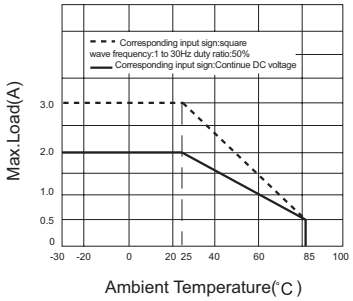


Wiring Diagram

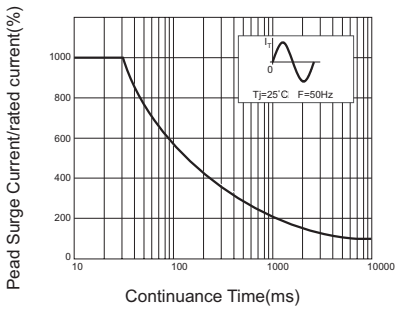


CHARACTERISTIC CURVE

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.