JGC-4F SOLID STATE RELAY

File No.: E133481

File No.: R2024431

File No.: CH0032705-2002A



Features

- DC input-AC output for 2A load at 25˚C
- 600 Volt blocking voltage
- Photo isolation
- Built-in snubber
- Zero cross or random turn-on
- Printed circuit board mount

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 max.
	12D	9.6VDC max.
	24D	19.2VDC max.
Must release voltage		1.0VDC min.
Max. input current		10mA

OUTPUT

Load voltage range (@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
Transient overvoltage		600Vpk max.
Min. off-state dv/dt		100V/μs min.
Zero-crossover voltage		±15V max.
Min. power factor		0.5

GENERAL

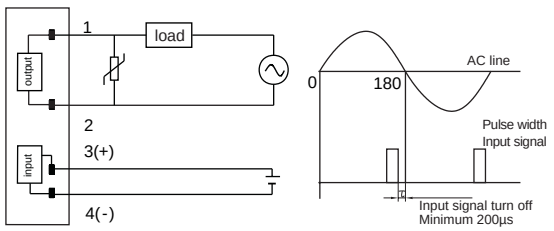
Dielectric strength (input to output)		2000VAC min., 50/60Hz 1min.
Insulation resistance		1000MΩ , min. (at 500VDC)
Max. Capacitance (input to output)		5pF
Vibration durability		10 to 55HZ Double amplitude 1.5mm
Shock durability		1000m/s^2
Ambient temperature	Operating	-30˚C to +80˚C
	Storage	-30˚C to +100˚C
Ambient Humidity		45% to 85%
Unit weight		6g

DESCRIPTION

This SPST-NO printed circuit board mount SIP SSR provides AC output switching in a high density package.The JGC-4F's DC input is compatible with 5, 12 and 24V logic systems .All models include an internal snubber.The relays provide 2000Vrms opto-isolation,between input and output. Encapsulation,thermally conductive epoxy.

PRECAUTIONS

1. Terminal arrangement



2. Soldering must be completed within 10 seconds at 260 ˚C or less or within 5 seconds at 350˚C or less.
3. 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.
4. 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.
5. When using the JGC-4F 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 JGC-4F 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.

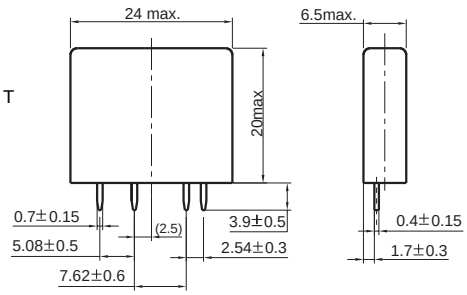
ORDERING INFORMATION

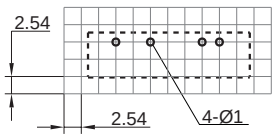
	JGC-4F /	12	D	1	T
Type					
Input voltage	**05** : 4 to 6VDC **12** : 9.6 to 14.4VDC **24** : 19.2 to 28.8VDC				
Input Form	D: DC				
Zero Cross Function	**0**: Zero cross turn-on **1**: Randm turn-on				
Termination	**T**: Same as TOSHIBA TSZXX48S, **M**: Same as OMRON G3MB				

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

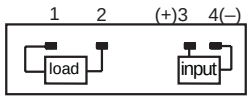
Outline Dimensions　　PCB layout　　Wiring Diagram

JGC-4F/ D- T

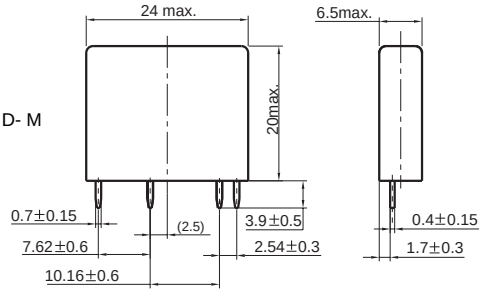


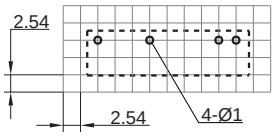


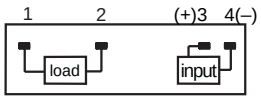
(Bottom view)



JGC-4F/ D- M

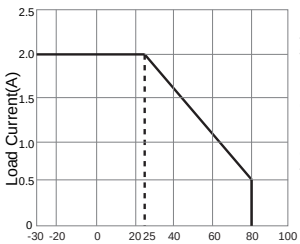






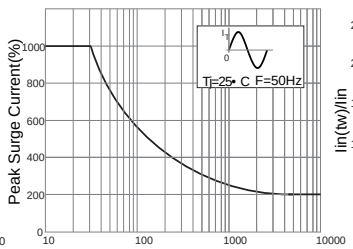
CHARACTERISTICS CURVE

MAXIMUM LOAD CURRENT VS.AMBIENT TEMPERATURE



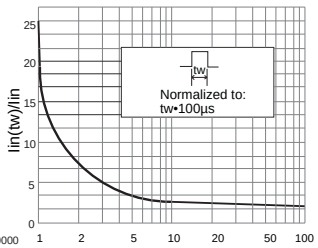
Ambient Temperature(˚C)

MAXIMUM PERMISSIBLE NON-REPETITIVE PEAK SURGE CURRENT VS. CONTINUANCE TIME



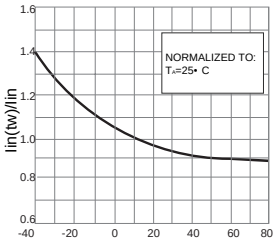
Energizing Continuance Time(ms)

PULSE INPUT CURRENT VS. PULSE WIDTH



Pulse Width Tw (µS)

INPUT CURRENT VS. AMBIENT TEMPERATURE



Ambient Temperature(˚C)