



CX - C3 SERIES SOLID STATE RELAY

Features

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

DESCRIPTION

The CX-C3 pin-out is compatible with standard OAC type I/O Modules, with all modes being available in zero or random turn-on versions. The CX-C3 is available in 240VAC, 380VAC and 480VAC versions and with control voltages of either 3-15VDC or 15-32VDC. Except for the 480VAC rating, all models incorporate an internal Snubber.

INPUT (TA = 25°C)

Input voltage	CX	3 to 15VDC
	CXE	15 to 32VDC
Must operate voltage	CX	3VDC
	CXE	15VDC
Must release voltage		1.0VDC
Max. Input current	CX	40mA
Max. Input current	CXE	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)		SCR output: 250Apk
Max.off-state leakage current		1.5mA
Max.on-state voltage drop		1.5Vrms
Max. turn-on time	Zero-cross	1/2 cycle + 1ms
	Random	1ms
Max. turn-off time		1/2 cycle + 1ms
Max. transient overvoltage		600Vpk (at 240VAC rated voltage)
		800Vpk (at 380VAC rated voltage)
		1200Vpk (at 480VAC rated voltage)
Min. off-state dv/dt		200V/μs
Min. power factor		0.5

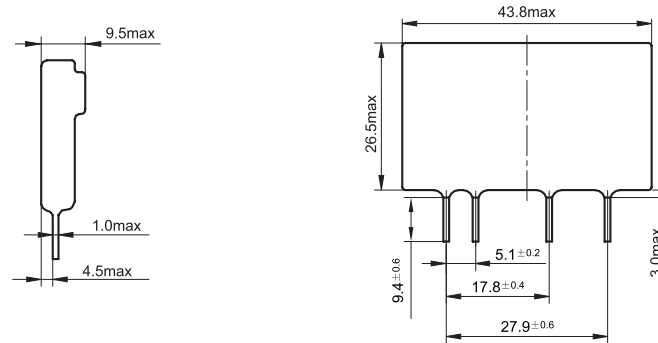
ORDERING INFORMATION

Type	CX E 240 D 5 R -C3
Input voltage	Nii: 3-15V E: 15-32V
Load voltage	240: 240V 380: 380V 480: 480V
Input voltage form	D: DC
Load current	3: 3A 4: 4A 5: 5A
Zero cross function	Nii: Zero cross turn-on R: Random cross turn-on
-C3	C3 Semiconductors

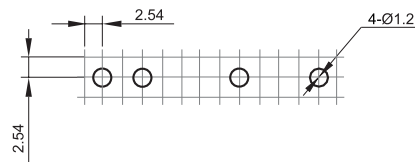
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

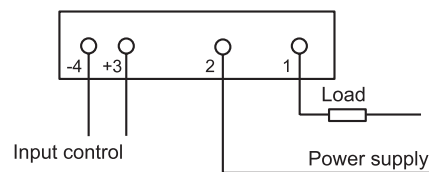
Outline Dimensions



PCB Layout
(Bottom view)



Wiring Diagram



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 CX 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.

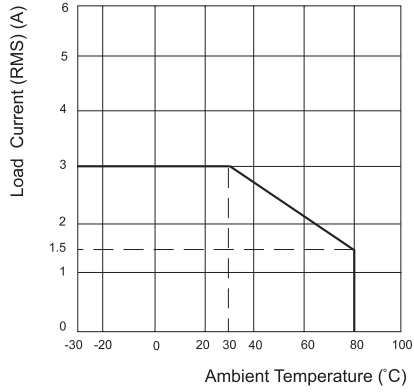
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For recommended applications and more information contact:
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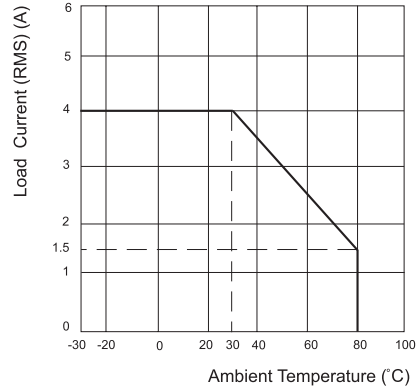
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CHARACTERISTIC CURVES

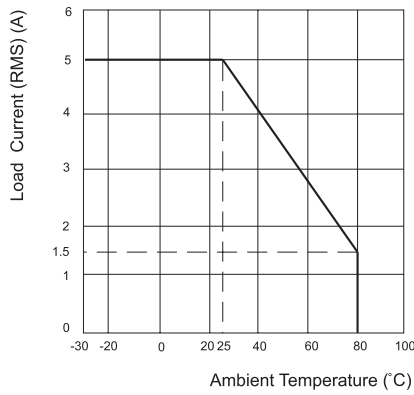
Max. Load Current vs. Ambient Temp. (3A)



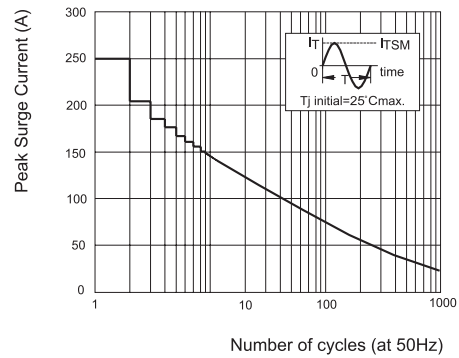
Max. Load Current vs. Ambient Temp. (4A)



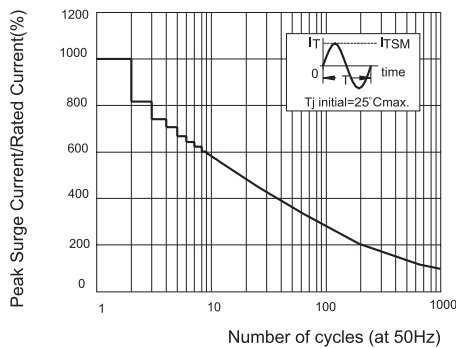
Max. Load Current vs. Ambient Temp. (5A)



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 to be used as a reference only. All the specifications are subject to change without notice. The user should be in position to use the suitable product for their own application. If there are questions, please contact C3 Semiconductors' technical department. It is the user's sole responsibility to determine which product should be used.

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