



# D24 - C3 SERIES SOLID STATE RELAY

## Features

- 4000V dielectric strength
- Photo isolation
- Removable finger proof cover available
- Built-in snubber
- Zero cross or random turn-on
- TRIAC AC output
- Panel mount
- DC or AC control
- With LED indicator or not
- RoHS compliant

## DESCRIPTION

The D24-C3 series offer 3-32VDC, 24VAC or 110-220VAC control voltages and outputs rated from 10A up to 40A. This series of relays come with built-in internal snubbers and they provide 4000 volts of opto-isolation input-output. They are packaged in industry standard "hockey puck" style.

## INPUT (TA = 25°C)

Control voltage range (DC input)	3 to 32VDC (Without LED) 4 to 32VDC (With LED)
Control voltage range (AC input)	85 to 132VAC (110V input) 175 to 264VAC (220V input) 19.2 to 28.8VAC (24V input)
Must operate voltage (DC input)	Max. 3VDC (Without LED) Max. 4VDC (With LED)
Must operate voltage (AC input)	85VAC (110V input) 175VAC (220V input) 19.2VAC (24V input)
Must release voltage (DC input)	1.0VDC
Must release voltage (AC input)	10VAC (110V, 220V input) 2VAC (24V input)
Max. input current	25mA (DC input) 15mA (AC input)
Max. reverse protection voltage (DC input)	-32VDC

## OUTPUT (TA = 25°C)

Type	10	15	20	25	40
Load voltage range (at 47-63HZ)	48 to 280VAC				
Max. transient overvoltage	600Vpk				
Load current range (A)	0.1 to 10	0.1 to 15	0.1 to 20	0.1 to 25	0.1 to 40
Max. I <sup>2</sup> t for fusing (10ms, A <sup>2</sup> s)	78	144	312	312	880
Max. surge current (10ms)	100Apk	150Apk	200Apk	250Apk	400Apk
Max. leakage current	5mA	5mA	5mA	5mA	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				
Min. off-state dv/dt	200V/μs				
Min. power factor	0.5				

## GENERAL (TA = 25°C)

Type	10	15	20	25	40
Dielectric strength (input to output)	4000VAC, 50/60Hz, 1min				
Insulation resistance	1000MΩ (at 500VDC)				
Ambient temperature	Operating	-30°C to 80°C			
	Storage	-30°C to 100°C			
Unit weight	Approx. 88g				

Notes: All parameters at 25°C.

## ORDERING INFORMATION

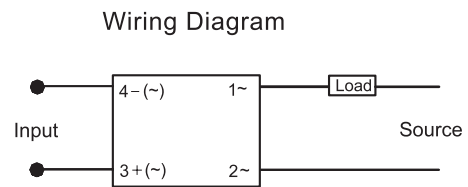
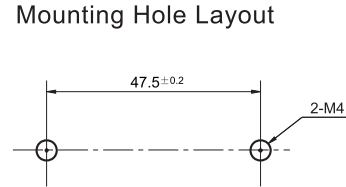
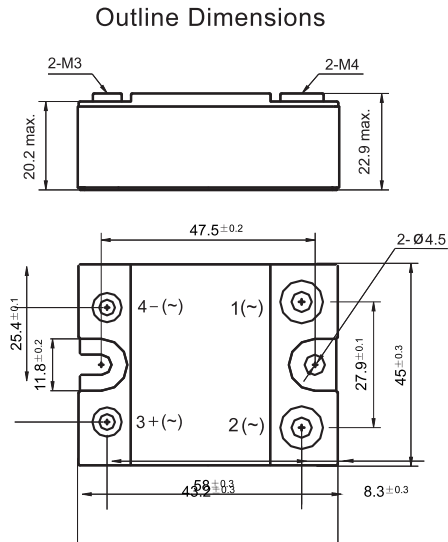
Ex: A2425E-10C3

Type	Panel Mount	D	24	25	E	-10	-C3
Input voltage	D: 3-32 VDC A: 90-280VAC						
Load voltage	24: 48-240VAC 48: 48-440VAC						
Load current	10: 10A 15: 15A 20: 20A 25: 25A 40: 40A						
Input voltage	E: 24VAC; AC Input Models						
Zero cross function	Nil: Zero cross Turn-on -10: Random turn-on						
	-C3 C3 Semiconductors						

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For recommended applications and more information contact:  
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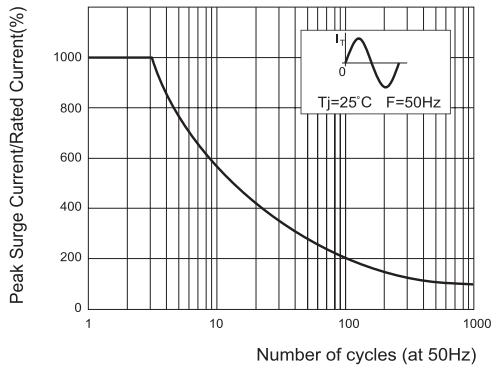
**PRECAUTIONS**

1. When choosing a SSR, please notice the actual load current and working ambient temperature. To use the SSR correctly, please refer to CHARACTERISTIC DATA and make sure the heat sink size when it works in full load current.
2. Apply heat-radiation silicon grease or a heat conductive sheet between the SSR and heat sink. There will be a space between the SSR and heat sink. Therefore, the generated heat of the SSR cannot be radiated properly without the grease. As a result, the SSR may be overheated and damaged or deteriorated.
3. Tighten the SSR terminal screws properly. If the screws are not tight, the SSR will be Damaged by heat generated when the power is ON. Perform wiring using the tightening torque shown in the following table.

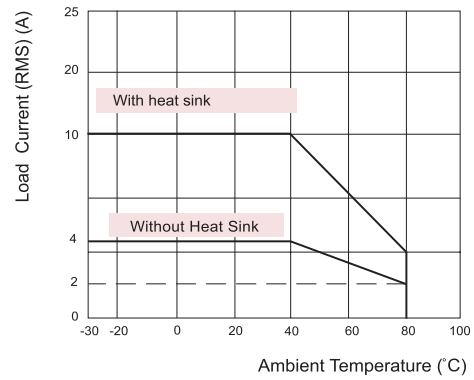
Screw size	Recommended tightened torque
M3	0.58 to 0.98 N·m
M4	0.98 to 1.37 N·m

# CHARACTERISTICS CURVES

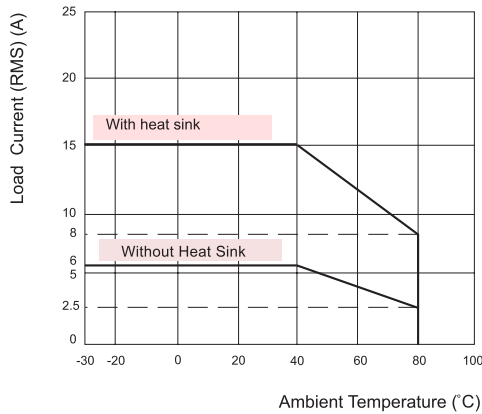
Max. Permissible Non-repetitive Peak Surge Current vs. Number of Cycles



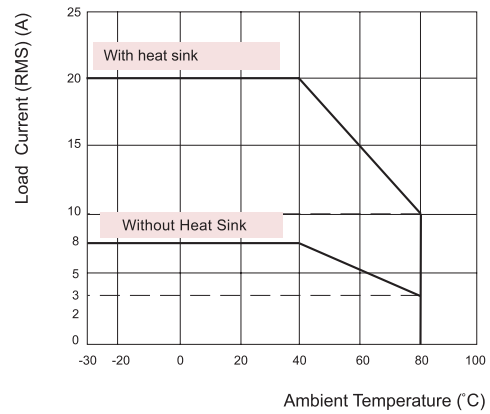
Max. Load Current vs. Ambient Temp. (10A)



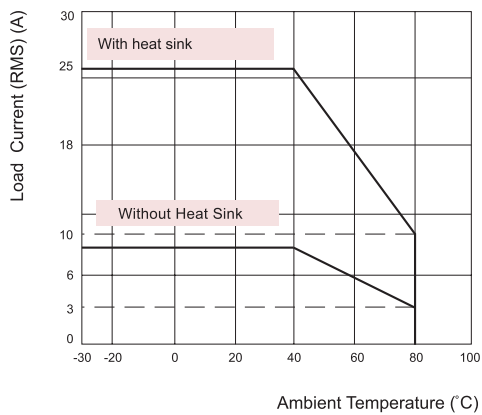
Max. Load Current vs. Ambient Temp. (15A)



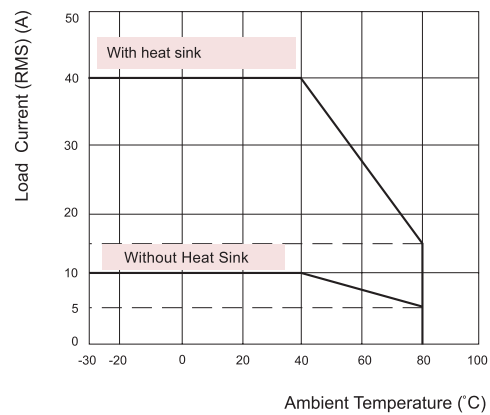
Max. Load Current vs. Ambient Temp. (20A)



Max. Load Current vs. Ambient Temp. (25A)



Max. Load Current vs. Ambient Temp. (40A)



## 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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