

## 阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

## Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

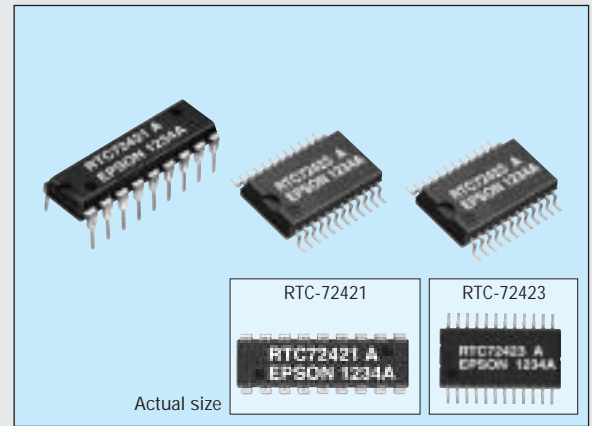
4-bit REAL TIME CLOCK MODULE

# RTC-72421/72423

Product number (please refer to page 2)

**Q4272421xxxxxx00**  
**Q4272423xxxxxx00**

- Built-in crystal unit allows adjustment-free efficient operation.
- 12/24 h clock switchover function and automatic leap year setting.
- Interrupt masking.



The details are mentioned in the application manual.

<http://www.epsondevice.com>

## Specifications (characteristics)

### Absolute Max. rating

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	V <sub>DD</sub>	Ta=+25 °C	-0.3	7.0	V
Input and output voltage	V <sub>I/O</sub>	Ta=+25 °C	GND -0.3	V <sub>DD</sub> +0.3	
Storage temperature *	T <sub>STG</sub>	RTC-72421	-55	+85	°C
		RTC-72423	-55	+125	

\*Stored as bare product after unpacking

### Operating range

Item	Symbol	Condition	Min.	Max.	Unit
Power voltage	V <sub>DD</sub>	—	4.5	5.5	V
Supply voltage	V <sub>CLK</sub>	—	2.0	5.5	V
Operating temperature *	T <sub>OPR</sub>	RTC-72421	-10	70	°C
		RTC-72423	-40	85	

\*No condensation

### Frequency characteristics

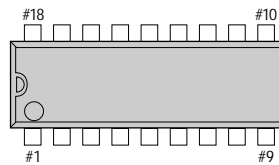
Item	Symbol	Condition	Range	Unit	
Frequency tolerance	Δf/f <sub>0</sub>	Ta=+25 °C	72421 A	±10	x 10 <sup>-6</sup>
			72421 B	±50	
		V <sub>DD</sub> =5 V	72423 A	±20	
			72423	±50	
Frequency temperature characteristics	T <sub>OP</sub>	-10 °C to +70 °C (Reference at +25 °C)	+10/-120	x 10 <sup>-6</sup>	
		-40 °C to +85 °C (Reference at +25 °C)	+10/-220		
Frequency voltage characteristics	f/V	Ta=+25 °C V <sub>DD</sub> =2.0 V to 5.5 V	±5 Max.	x 10 <sup>4</sup> /V	
Aging	fa	V <sub>DD</sub> =5 V, Ta=+25 °C, first year	±5 Max.	x 10 <sup>-6</sup> /year	

### DC characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Applicable terminal
Current consumption	I <sub>DD1</sub>	CS <sub>1</sub> =0 V Exclude input/output current	—	1	10	μA	—
	I <sub>DD2</sub>	V <sub>DD</sub> =5 V V <sub>DD</sub> =2 V	—	0.9	5		
"H" input voltage (1)	V <sub>IH1</sub>	—	2.2	—	—	V	All inputs other than CS <sub>1</sub>
"L" input voltage (1)	V <sub>IL1</sub>			0.8	—		
Input leak current (1)	I <sub>LK1</sub>	V <sub>1</sub> =V <sub>DD</sub> /0 V	—	±1	—	μA	Input other than Do to D <sub>3</sub>
Input leak current (2)	I <sub>LK2</sub>			±10	—		
"L" output voltage (1)	V <sub>OL1</sub>	I <sub>OL</sub> =2.5 mA	2.4	0.4	—	V	Do to D <sub>3</sub>
"H" output voltage	V <sub>OH</sub>			I <sub>OH</sub> =-400 μA	—		
"L" output voltage (2)	V <sub>OL2</sub>	I <sub>OL</sub> =2.5 mA	—	0.4	—	V	STD.P
Off leak current	I <sub>OFFLK</sub>	V <sub>1</sub> =V <sub>DD</sub> /0 V	—	10	—		
Input capacity	C <sub>1</sub>	Input frequency 1 MHz	—	10	—	pF	Input other than Do to D <sub>3</sub>
			—	20	—		
"H" input voltage (2)	V <sub>IH2</sub>	V <sub>DD</sub> =2 to 5.5 V	—	4/5 V <sub>DD</sub>	—	V	CS <sub>1</sub>
"L" input voltage (2)	V <sub>IL2</sub>			1/5 V <sub>DD</sub>	—		

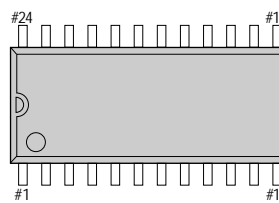
## Terminal connection

### RTC-72421



No.	Pin terminal	No.	Pin terminal
1	STD.P	18	V <sub>DD</sub>
2	CS <sub>1</sub>	17	(V <sub>DD</sub> )
3	ALE	16	(V <sub>DD</sub> )
4	A <sub>0</sub>	15	CS <sub>1</sub>
5	A <sub>1</sub>	14	D <sub>0</sub>
6	A <sub>2</sub>	13	D <sub>1</sub>
7	A <sub>3</sub>	12	D <sub>2</sub>
8	RD	11	D <sub>3</sub>
9	GND	10	WR

### RTC-72423



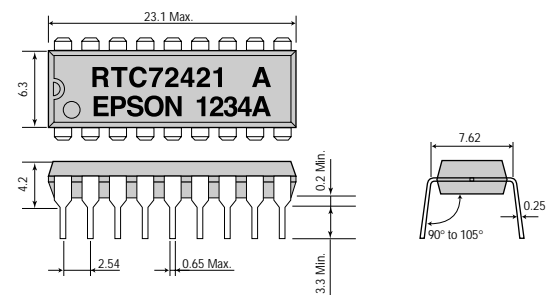
No.	Pin terminal	No.	Pin terminal
1	STD.P	24	V <sub>DD</sub>
2	CS <sub>1</sub>	23	(V <sub>DD</sub> )
3	NC	22	(V <sub>DD</sub> )
4	ALE	21	NC
5	A <sub>0</sub>	20	CS <sub>1</sub>
6	NC	19	D <sub>0</sub>
7	A <sub>1</sub>	18	NC
8	NC	17	NC
9	A <sub>2</sub>	16	D <sub>1</sub>
10	A <sub>3</sub>	15	D <sub>2</sub>
11	RD	14	D <sub>3</sub>
12	GND	13	WR

- (V<sub>DD</sub>) and V<sub>DD</sub> are to have the same level of voltage. Do not connect it to any external terminals.
- NC is not connected internally.

## External dimensions

(Unit: mm)

### RTC-72421 (DIP 18-pin)



### RTC-72423 (SOP 24-pin)

