

4-bit REAL TIME CLOCK MODULE

RTC-72421  
RTC-72423

- Built-in crystal unit allows adjustment-free efficient operation.
- 24 h /12 h changeable and leap year automatically adjustable (Gregorian calendar).



Product Number (Please contact us)  
RTC-72421 : Q42724212xxxx00  
RTC-72423 : Q42724232xxxx00



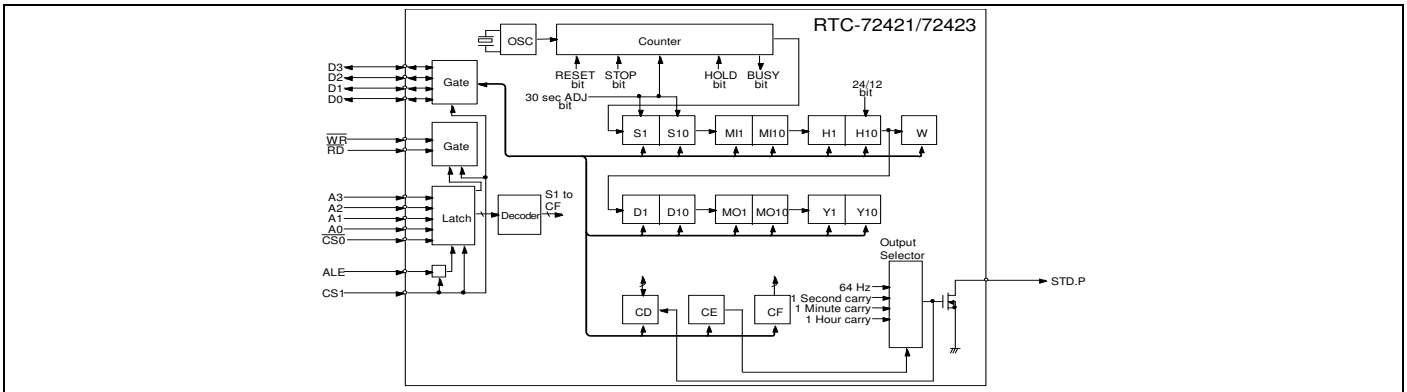
Actual size

RTC-72421

RTC-72423



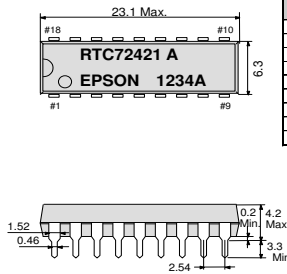
Block diagram



Terminal connection/External dimensions

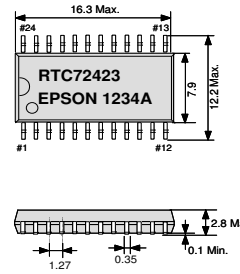
(Unit:mm)

● RTC-72421 (DIP 18-pin)



No.	Pin terminal	No.	Pin terminal
1	STD.P	18	VDD
2	/CS <sub>0</sub>	17	(VDD)
3	ALE	16	(VDD)
4	A <sub>0</sub>	15	CS <sub>1</sub>
5	A <sub>1</sub>	14	C <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 (SOP 24-pin)



No.	Pin terminal	No.	Pin terminal
1	STD.P	24	VDD
2	/CS <sub>0</sub>	23	(VDD)
3	N.C.	22	(VDD)
4	ALE	21	N.C.
5	A <sub>0</sub>	20	CS <sub>1</sub>
6	N.C.	19	D <sub>0</sub>
7	A <sub>1</sub>	18	N.C.
8	N.C.	17	N.C.
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

Specifications (characteristics)

\*Refer to application manual for details.

Absolute Max. rating

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	V <sub>DD</sub>	T <sub>a</sub> =+25 °C	-0.3	+7.0	V
Input voltage	V <sub>I/O</sub>	T <sub>a</sub> =+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
Clock voltage	V <sub>CLK</sub>	—	2.0	5.5	
Operating temperature	T <sub>OPR</sub>	RTC-72421	-10	+70	°C
		RTC-72423	-40	+85	

Stored as bare product after unpacking

Frequency characteristics

Item	Symbol	Condition	Range	Unit
Frequency precision	Δf / f	T <sub>a</sub> =+25 °C V <sub>DD</sub> =5.0 V	72421A	±10
			72421B	±50
			72423A	±20
			72423B	±50
Frequency temperature characteristics	TOP	-10 °C to +70 °C (+25 °C)	+10 / -120	×10 <sup>-6</sup>
		-40 °C to +85 °C(+25 °C)	+10 / -220	
Frequency voltage characteristics	f/V	T <sub>a</sub> =+25 °C, V <sub>DD</sub> =2.0 V to 5.5 V	±5.0 Max.	×10 <sup>-6</sup> /V
Aging	fa	T <sub>a</sub> =+25 °C, V <sub>DD</sub> =5.0 V, First year	±5.0 Max.	×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		—
HIGH input voltage (1)	V <sub>IH1</sub>	—	2.2	—	—	V	All inputs other than CS <sub>1</sub>
LOW input voltage (1)	V <sub>IL1</sub>	—	—	0.8	—		
LOW output voltage (1)	V <sub>OL1</sub>	I <sub>OL</sub> =2.5 mA	—	0.4	—	V	D <sub>0</sub> to D <sub>3</sub>
HIGH output voltage	V <sub>OH</sub>	I <sub>OH</sub> =-400 μA	2.4	—	—		
LOW output voltage (2)	V <sub>OL2</sub>	I <sub>OL</sub> =2.5 mA	—	0.4	—	μA	STD.P
OFF leak current	I <sub>OFFLK</sub>	V <sub>1</sub> =V <sub>DD</sub> /0 V	—	10/-10	—		
Input capacity	C <sub>1</sub>	Input frequency 1 MHz	—	10	—	pF	Input other than D <sub>0</sub> to D <sub>3</sub> , STD.P
			4/5 V <sub>DD</sub>	—	20		
HIGH input voltage (2)	V <sub>IH2</sub>	V <sub>DD</sub> =2.0 V to 5.5 V	—	—	1/5 V <sub>DD</sub>	V	CS <sub>1</sub>
LOW input voltage (2)	V <sub>IL2</sub>	—	—	—	—		
Input leak current (1)	I <sub>LK1</sub>	V <sub>1</sub> =V <sub>DD</sub> /0 V	—	—	1/-1	μA	Input other than D <sub>0</sub> to D <sub>3</sub>
Input leak current (2)	I <sub>LK2</sub>	—	—	—	10/-10		