

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 : 042724212xxxx00

RTC-72423 : Q42724232xxxx00



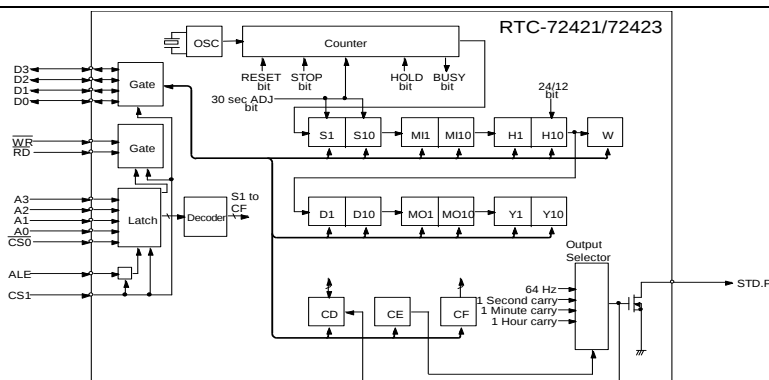
Actual size

RTC-72421

RTC-72423



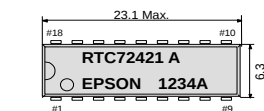
Block diagram



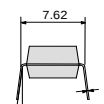
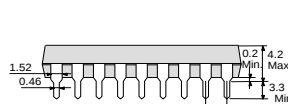
Terminal connection/External dimensions

(Unit:mm)

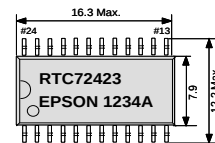
● **RTC-72421 (DIP 18-pin)**



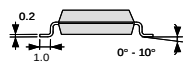
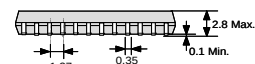
No.	Pin terminal	No.	Pin terminal
1	STD.P	18	V _{DD}
2	/CS ₀	17	(V _{DD})
3	ALE	16	(V _{DD})
4	A ₀	15	CS ₁
5	A ₁	14	C ₀
6	A ₂	13	D ₁
7	A ₃	12	D ₂
8	/RD	11	D ₃
9	GND	10	/WR



● RTC-72423 (SOP 24-pin)



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



Metal may be exposed on the top or bottom of this product. This will not affect any quality, reliability or electrical spec.

Specifications (characteristics)

***Refer to application manual for details.**

Absolute Max. rating

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	V _{DD}	T _a =+25 °C	-0.3	+7.0	V
Input voltage	V _{I/O}	T _a =+25 °C	GND-0.3	V _{DD} +0.3	
Storage temperature *	T _{STG}	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 _{DD}	—	4.5	5.5	V
Clock voltage	V _{CLK}	—	2.0	5.5	
Operating temperature	T _{OPR}	RTC-72421	-10	+70	°C
		RTC-72423	-40	+85	

Stored as bare produc after unpacking

Frequency characteristics

Item	Symbol	Condition	Range	Unit
Frequency precision	$\Delta f/f$	$T_a=+25^\circ\text{C}$ $V_{DD}=5.0\text{ V}$	72421A ± 10 72421B ± 50 72423A ± 20 72423B ± 50	$\times 10^{-6}$
Frequency temperature characteristics	TOP	-10°C to $+70^\circ\text{C}$ ($+25^\circ\text{C}$) -40°C to $+85^\circ\text{C}$ ($+25^\circ\text{C}$)	$\pm 10 / -120$ $\pm 10 / -220$	
Frequency voltage characteristics	f/V	$T_a=+25^\circ\text{C}$, $V_{DD}=2.0\text{ V}$ to 5.5 V	$\pm 5.0\text{ Max.}$	$\times 10^{-6}/\text{V}$
Aging	fa	$T_a=+25^\circ\text{C}$, $V_{DD}=5.0\text{ V}$, First year	$\pm 5.0\text{ Max.}$	$\times 10^{-6}/\text{year}$

DC characteristics

Item	Symbol	Condition		Min.	Typ.	Max.	Unit	Applicable terminal
Current consumption	I _{DD1}	CS ₁ = 0 V Exclude input/ output current	V _{DD} =5 V	—	1	10	μA	—
	V _{DD} =2 V		0.9		5	—		
HIGH input voltage (1)	V _{IHL}	—	2.2	—	—	V	All inputs other than CS ₁	
LOW input voltage (1)	V _{IL1}		—		0.8			
LOW output voltage (1)	V _{OL1}	I _{OL} =2.5 mA	—		0.4	V	D ₀ to D ₃	
HIGH output voltage	V _{OH}	I _{OH} =-400 μA	2.4		—			
LOW output voltage (2)	V _{OL2}	I _{OL} =2.5 mA	—		0.4		STD.P	
OFF leak current	I _{OFFLK}	V _I =V _{DD} /0 V			10/-10	μA		
Input capacity	C ₁	Input frequency 1 MHz	—	10	—	pF	Input other than D ₀ to D ₃	
				20			D ₀ to D ₃ , STD.P	
HIGH input voltage (2)	V _{IHL2}	V _{DD} =2.0 V to 5.5 V	4/5 V _{DD}	—	1/5 V _{DD}	V	CS ₁	
LOW input voltage (2)	V _{IL2}		—					
Input leak current (1)	I _{LK1}	V _I =V _{DD} /0 V	—		1/-1	μA	Input other than D ₀ to D ₃	
Input leak current (2)	I _{LK2}				10/-10	D ₀ to D ₃		