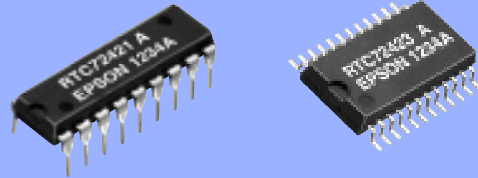


4-bit REAL TIME CLOCK MODULE

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).



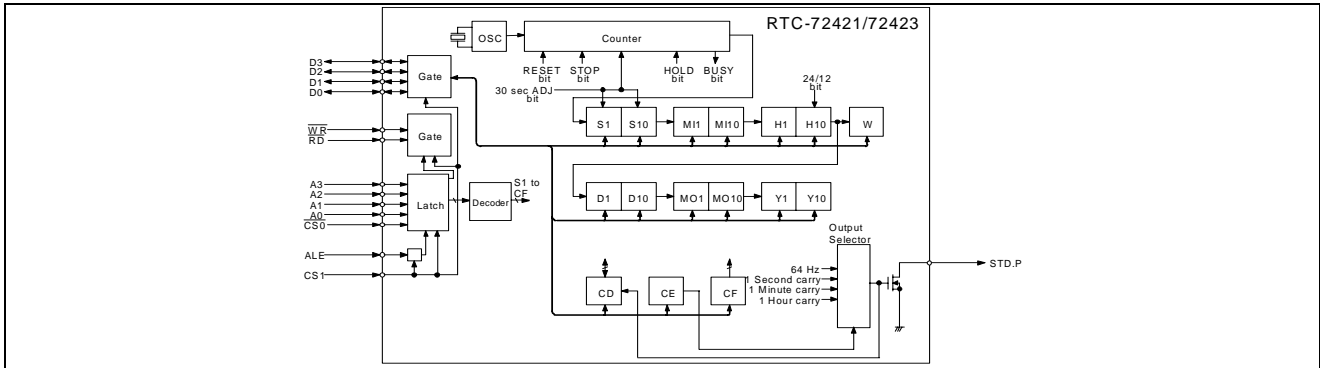
Actual size

RTC-72421

RTC-72423



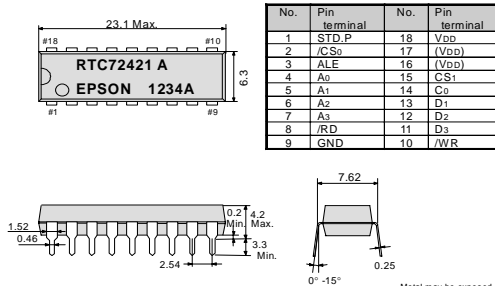
Block diagram



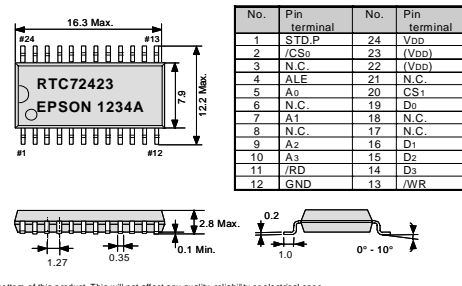
Terminal connection/External dimensions

(Unit:mm)

● RTC-72421 (DIP 18-pin)



● RTC-72423 (SOP 24-pin)



Specifications (characteristics)

*Refer to application manual for details.

Absolute Max. rating

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	VDD	Ta=+25 °C	-0.3	+7.0	V
Input voltage	VIO	Ta=+25 °C	GND-0.3	VDD+0.3	
Storage temperature *	TSTG	RTC-72421 RTC-72423	-55 -55	+85 +125	°C

*Stored as bare product after unpacking

Operating range

Item	Symbol	Condition	Min.	Max.	Unit
Power voltage	VDD	—	4.5	5.5	V
Clock voltage	VCLK	—	2.0	5.5	V
Operating temperature	TOPR	RTC-72421 RTC-72423	-10 -40	+70 +85	°C

Stored as bare product after unpacking

Frequency characteristics

Item	Symbol	Condition	Range	Unit
Frequency precision	Δf/f	Ta=+25 °C VDD=5.0 V	72421A	±10
			72421B	±50
			72423A	±20
			72423	±50
Frequency temperature characteristics	TOP	-10 °C to +70 °C (+25 °C)	+10 / -120	×10 ⁻⁶
		-40 °C to +85 °C (+25 °C)	+10 / -220	
Frequency voltage characteristics	f/V	Ta=+25 °C, VDD=2.0 V to 5.5 V	±5.0 Max.	×10 ⁻⁹ /V
Aging	fa	Ta=+25 °C, VDD=5.0 V, First year	±5.0 Max.	×10 ⁻⁶ /year

DC characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Applicable terminal
Current consumption	IbD1	CS1= 0 V Exclude input/output current	—	1	10	μA	—
	IbD2	VDD=5 V VDD=2 V	—	0.9	5		
HIGH input voltage (1)	VIH1	—	—	2.2	—	V	All inputs other than CS1
LOW input voltage (1)	VIL1	—	—	—	0.8		
LOW output voltage (1)	Vol1	IOL=2.5 mA	—	—	0.4	V	Do to D3
HIGH output voltage	VOH	IOH=-400 μA	2.4	—	—		
LOW output voltage (2)	Vol2	IOL=2.5 mA	—	—	0.4	μA	STD.P
OFF leak current	IoffLK	V1=VDD/0 V	—	—	10/-10		
Input capacity	C1	Input frequency 1 MHz	—	10	—	pF	Input other than Do to D3, STD.P
			4/5 VDD	20	—		
HIGH input voltage (2)	VIH2	VDD=2.0 V to 5.5 V	—	—	1/5 VDD	V	CS1
LOW input voltage (2)	VIL2	—	—	—	—		
Input leak current (1)	IUK1	V1=VDD/0 V	—	—	1/-1	μA	Input other than Do to D3
Input leak current (2)	IUK2	—	—	—	10/-10		