



SERIAL-INTERFACE REAL TIME CLOCK MODULE

RTC - 4574 SA / JE / NB

- Built in frequency adjusted 32.768 kHz crystal unit.
- Interface Type : 3-wire serial interface
- Operating voltage range : 1.6 V to 5.5 V
- Wide Timekeeper voltage range : 1.6 V to 5.5 V
- Low backup current : 0.5 μ A / 3 V (Typ.)
- 32.768 kHz frequency output function : C-MOS output With Control Pin
- The various functions include full calendar, alarm, timer.



Product Number (Please contact us)

RTC-4574SA : Q41457452000200

RTC-4574JE : Q41457471000100

RTC-4574NB : Q41457492000100



Actual size

RTC-4574SA



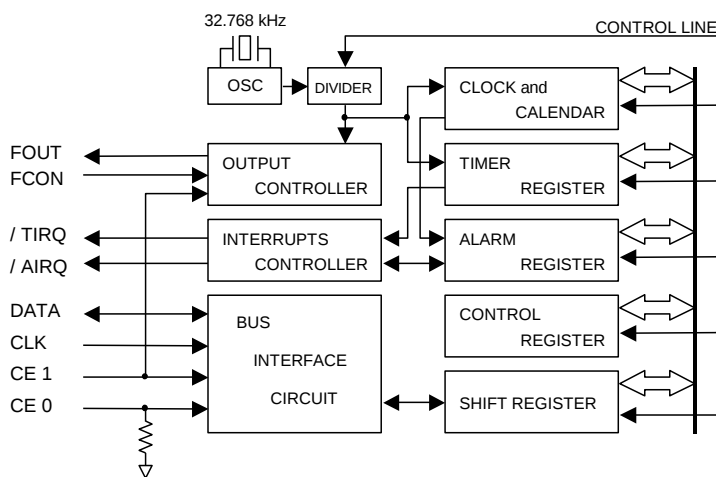
RTC-4574JE



RTC-4574NB



Block diagram



Overview

• 32.768 kHz frequency output function

- FOUT pin output (C-MOS output), CL=30 pF
- Output frequency selectable from 1/30 Hz to 32.768 kHz (32 Values)

• Timer function

- Timer function can be set up between 1/4096 second and 255 minutes.
- It is recorded automatically to TF-bit at the time of event occurrence, and it's possible to output with /TIRQ pin output (open-drain output).
- Selectable one time mode or repeat mode.

• Alarm function

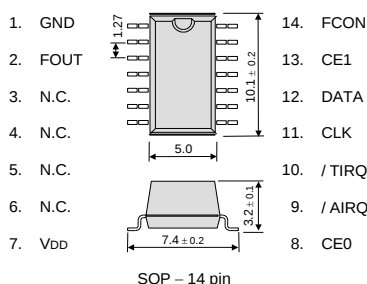
- Alarm function can be set to any combination of day of week, hour, or minute.
- It is recorded automatically to AF-bit at the time of event occurrence, and it's possible to output with /AIRQ pin output (open-drain output).

* Functions are compatible with RX - 4574 LC.

Terminal connection / External dimensions

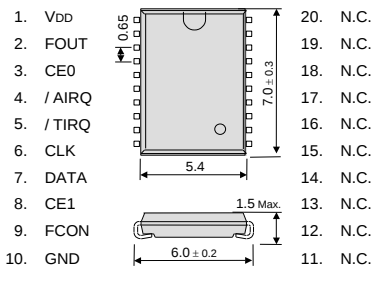
(Unit:mm)

RTC - 4574 SA



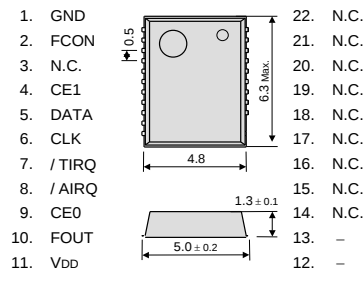
SOP - 14 pin

RTC - 4574 JE



VSOJ - 20 pin

RTC - 4574 NB



SON - 22 pin

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.

■ Recommended Operating Conditions

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power voltage	VDD	—	1.6	3.0	5.5	V
Clock voltage	VCLK	—	1.6	3.0	5.5	V
Operating temperature	TOPR	—	-40	+25	+85	°C

■ Frequency characteristics

Item	Symbol	Condition	Rating	Unit
Frequency tolerance	$\Delta f / f$	Ta = +25 °C VDD = 3.0 V	5 ± 23 *	× 10 ⁻⁶
Oscillation start-up time	tSTA	Ta = +25 °C VDD = 1.6 V	3 Max.	s

* Please ask for tighter tolerance. (Equivalent to 1 minute of monthly deviation)

■ Current consumption characteristics

Ta = -40 °C to +85 °C

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Current Consumption	IBK	CE0, CE1 = GND FOUT ; output OFF (Hi - z)	VDD = 5 V	1.0	2.0	μ A
			VDD = 3 V	0.5	1.0	
	I32k	CE0 = GND CE1 = VDD FOUT ; 32.768 kHz output ON CL = 30 pF	VDD = 5 V	8.0	20.0	μ A
			VDD = 3 V	5.0	12.0	