



REAL TIME CLOCK MODULE (SPI-Bus)

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



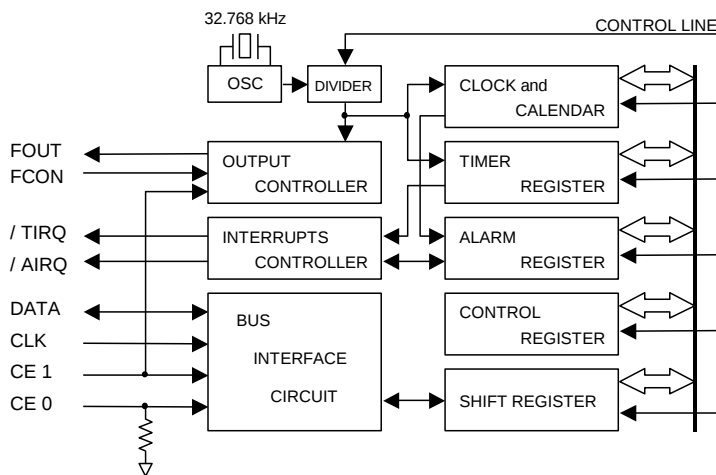
RTC-4574JE



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

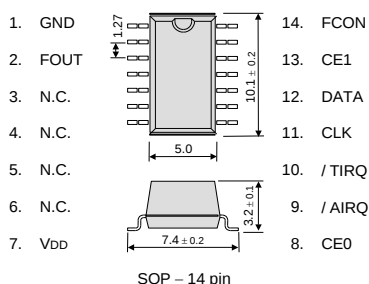
- Alarm function can be set to any combination of day of week, hour, or minute.
- It is recorded automatically to AF-bit at the time of event occurrence, and it's possible to output with /AIRQ pin output (open-drain output).

* Functions are compatible with RX - 4574 LC.

Terminal connection / External dimensions

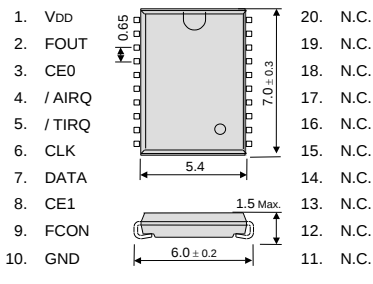
(Unit:mm)

RTC - 4574 SA



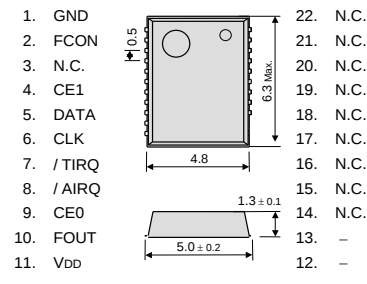
SOP - 14 pin

RTC - 4574 JE



VSQJ - 20 pin

RTC - 4574 NB



SON - 22 pin

The metal case inside of the molding compound may be exposed on the top or bottom of this product. This purely cosmetic and does not have any effect on quality, reliability or electrical specs.

Specifications (characteristics)

* Refer to application manual for details.

■ Recommended Operating Conditions

Item	Symbol	Conditions	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	Conditions	Rating	Unit
Frequency tolerance	$\Delta f / f$	Ta = +25 °C VDD = 3.0 V	B: 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	Conditions	Min.	Typ.	Max.	Unit
Current Consumption	IBK	CE0, CE1 = GND FOUT ; output OFF (Hi - z)	VDD = 5 V	-	1.0	2.0
			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
			VDD = 3 V	-	5.0	12.0