

SERIAL-INTERFACE REAL TIME CLOCK MODULE

RTC - 4574 SA / JE / NB

- Built in frequency adjusted 32.768 kHz crystal unit.
- Interface Type : Serial interface in 3 lines form.
- 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  $\mu$ A / 3 V ( Typ. )
- 32.768 kHz frequency output function : C-MOS output With Control Pin
- The various functions include full calendar, alarm, timer.
- Lead(Pb)-free : Contains high melting temperature type solder (Pb85 %) exempted by RoHS directive.

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Actual size

RTC-4574SA



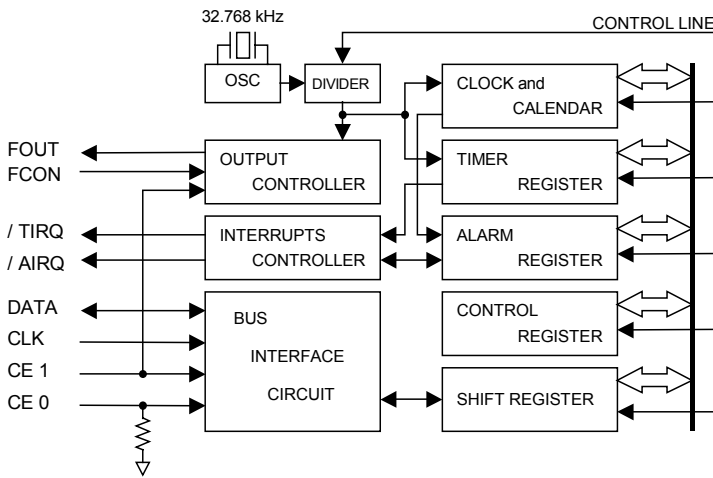
RTC-4574JE



RTC-4574NB



Block diagram

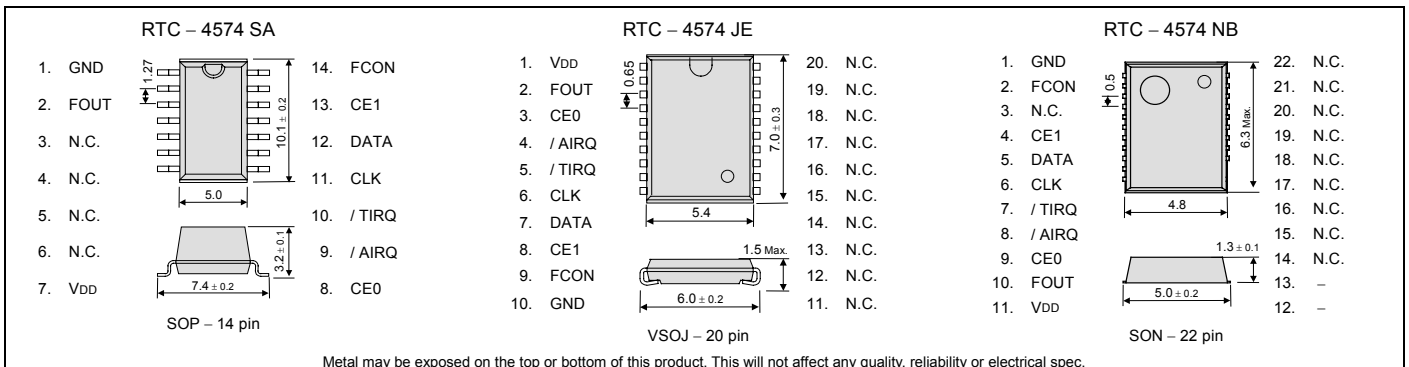


Overview

- **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 automatic to TF-bit at the time of event occurrence, and 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 automatic to AF-bit at the time of event occurrence, and possible to output with /AIRQ pin output (open-drain output).
- Functions are compatible with RX - 4574 LC.

Terminal connection / External dimensions

(Unit:mm)



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 <sup>-6</sup>
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)

DC characteristics

Ta = -40 °C to +85 °C

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Current Consumption	I <sub>BK</sub>	CE0, CE1 = GND FOUT ; output OFF (Hi - z)	VDD = 5 V	1.0	2.0	$\mu$ A
			VDD = 3 V	0.5	1.0	
	I <sub>32k</sub>	CE0 = GND CE1 = VDD FOUT ; 32.768 kHz output ON CL = 30 pF	VDD = 5 V	8.0	20.0	$\mu$ A
			VDD = 3 V	5.0	12.0	