REAL TIME CLOCK MODULE (I²C-Bus)

Low current consumption

RoHS Compliant

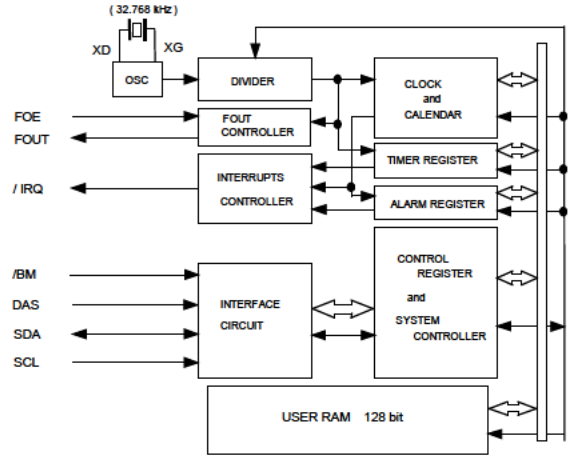
Product Number
RX-8571SA : X1B000072000100
RX-8571LC : X1B000052000100

RX-8571SA / LC

- Built-in frequency adjusted 32.768 kHz crystal unit.
- Interface Type : I²C-Bus Interface (400 kHz)
- Operating voltage range : 1.6 V to 5.5 V
- Wide voltage for timekeeping : 1.3 V to 5.5 V
- Low backup current : 220 nA / 3 V (Typ.)
- 32.768 kHz frequency output function : C-MOS output With Control Pin
- Built-in user RAM :128 bit (8 bit x 16, SRAM)
- The various functions include full calendar, alarm, timer,etc.
  (Long-running timer : 65535 hours)

* The I²C-Bus is a trademark of NXP Semiconductors

Block diagram



Overview

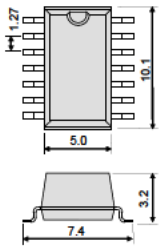
- 32.768 kHz frequency output function
  - FOE pin enable output on/off control.
  - Output frequency can be selected as 32.768 kHz, 1024 Hz, 1 Hz.
- Timer Function
  - Timer function can be set up between 1/4096 second and 65535 hours.
  - Timing period are 1 h, 1 min, 64 Hz, 4096 Hz.
  - It is recorded automatically to TF-bit at the time of event occurs, and poss ble to output with /IRQ pin output.
- Alarm function
  - Alarm function can be set to day of week, day, hour, or minute.
  - It is recorded automatically to AF-bit at the time of event occurs, and poss ble to output with /IRQ pin output.
- User RAM
  - 128 bit (8 bit x 16, SRAM)

Terminal connection / External dimensions

(Unit:mm)

RX – 8571 SA

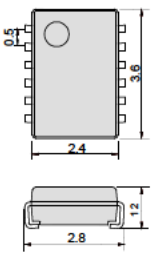
1.	GND	14.	FOUT
2.	N.C.	13.	N.C.
3.	DAS	12.	N.C.
4.	SCL	11.	N.C.
5.	SDA	10.	/ RQ
6.	/BM	9.	N.C.
7.	FOE	8.	VDD



SOP - 14 pin

RX – 8571 LC

1.	FOE	12.	VDD
2.	/BM	11.	N.C.
3.	SDA	10.	N.C.
4.	SCL	9.	N.C.
5.	DAS	8.	/IRQ
6.	GND	7.	FOUT



VSOJ – 12pin

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.

***Stop using the glue**
Any glue must never use it after soldering LC-package to a circuit board.This product has glass on the back side of a package.When glue invasions between circuit board side and glass side, then glass cracks by thermal expansion of glue.In this case a crystal oscillation stops.Consider glue abolition or glue do not touch to LC-package

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	—	1.3	3.0	5.5	V
Operating temperature	TOPR	—	-40	+25	+85	°C

■ Frequency characteristics

Item	Symbol	Conditions	Rating	Unit
Frequency tolerance	Δf/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	1 Max.	s

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

■ Current consumption characteristics

Item	Symbol	Conditions		Min.	Typ.	Max.	Unit
Current Consumption	IDD	FOE=/BM="L" FOUT= OFF /IRQ = OFF VDD =3.0V Ta= +25 °C	LC type	-	220	400	nA
			SA type	-	200	400	
		FOE=/BM="L" FOUT= OFF /IRQ = OFF VDD =3.0V Ta= -40 °C to +85 °C	-	-	-	550	nA