



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



REAL TIME CLOCK MODULE (SPI-Bus)

Built-in external event detection.

RX-4575 LC

- Built in frequency adjusted 32.768 kHz crystal unit.
- Interface Type : 3-wire serial interface
- Operating voltage range : 1.6 V ~ 5.5 V
- Wide timekeeper voltage range : 1.3 V ~ 5.5 V
- Low backup current : 0.35 μ A / 3 V (Typ.)
- External event detection. : Chattering free input port \times 2.
(The various functions include full calendar, alarm, timer.)



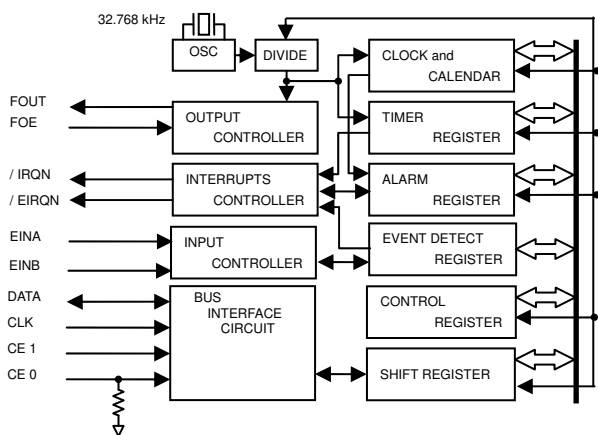
Product Number (Please contact us)
RX-4575LC : Q414575C2000100



Actual size



Block diagram



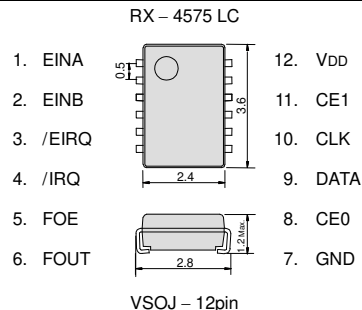
Overview

- **Event detection.**
 - Selectable Hi detection or Lo detection.
 - Recognition of detection is available both the hardware interrupt and the monitor via software.
 - Automatic interrupt release mode is available.
 - The all 'OR' interrupt output is possible via alarm, timer and event detection.
- **Performance of event input terminal.**
 - As for the chattering filter, following are prepared for. (8 ms, 31 ms, 62 ms, 125 ms)
 - Built-in resistor connect and release is possible via software. Selectable pull-up or pull-down.
- **Timer function**
 - Built in 12 bit counter.
 - Timing period are 1 min, 1 s, 64 Hz, 4096 Hz.
- **Alarm function**
 - Alarm setting is possible by combination of a day, hours, and minutes.

Pin Function

Signal Name	Input / Output	Functions
EINA EINB	Input	External event input pin.
CE 0 CE 1	Input	Interface is possible when both CE0 and CE1 is high level.
CLK	Input	Serial Clock input pin.
DATA	Bidirectional	Data input and output pin.
FOUT	Output	32.768 kHz clock output pin (C-MOS) . Output is Hi-Z when OFF.
FOE	Input	32kHz is output when input is Hi, 32 kHz is OFF when input is Lo.
/ IRQ	Output	Interrupt output pin. (N-ch open drain)
/ EIRQ	Output	Interrupt output pin. (N-ch open drain)
VDD	—	Connected to a positive power supply.
GND	—	Connected to a ground.

Terminal connection / External dimensions (Unit:mm)



***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

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	$\Delta f/f$	Ta = +25 °C VDD = 3.0 V	B: 5 \pm 23 *	$\times 10^{-6}$
Oscillation Start-up time	tSTA	Ta = +25 °C VDD = 1.6 V	1 Max.	s
		Ta = -40 °C ~ +85 °C VDD = 1.6 V	3 Max.	s

*Equivalent to 1 minute of monthly deviation

Current consumption characteristics

Ta = -40 °C ~ +85 °C

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Current Consumption	IBK	CE0, CE1 = GND / IRQ, / EIRQ = OFF FOUT : output OFF Event detection OFF	VDD = 5 V	-	0.45	0.9	μ A
		VDD = 3 V	-	0.35	0.7		
Current Consumption	I32k	CE0, CE1 = GND / IRQ, / EIRQ = OFF FOUT ; CL = 30 pF 32.768 kHz output ON	VDD = 5 V	-	8.0	20.0	μ A
		VDD = 3 V	-	5.0	12.0		

PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.





WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs,

Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

► Explanation of the mark that are using it for the catalog

	► Pb free.
	► Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc.)

Notice

- This material is subject to change without notice.
- Any part of this material may not be reproduced or duplicated in any form or any means without the written permission of Seiko Epson.
- The information about applied circuitry, software, usage, etc. written in this material is intended for reference only. Seiko Epson does not assume any liability for the occurrence of infringing on any patent or copyright of a third party. This material does not authorize the licensing for any patent or intellectual copyrights.
- When exporting the products or technology described in this material, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations.
- You are requested not to use the products (and any technical information furnished, if any) for the development and/or manufacture of weapon of mass destruction or for other military purposes. You are also requested that you would not make the products available to any third party who may use the products for such prohibited purposes.
- These products are intended for general use in electronic equipment. When using them in specific applications that require extremely high reliability, such as the applications stated below, you must obtain permission from Seiko Epson in advance.
/ Space equipment (artificial satellites, rockets, etc.) / Transportation vehicles and related (automobiles, aircraft, trains, vessels, etc.) / Medical instruments to sustain life / Submarine transmitters / Power stations and related / Fire work equipment and security equipment / traffic control equipment / and others requiring equivalent reliability.
- All brands or product names mentioned herein are trademarks and/or registered trademarks of their respective.