

Low current consumption / Small size, X-profile model
I²C-BUS INTERFACE REAL TIME CLOCK MODULE

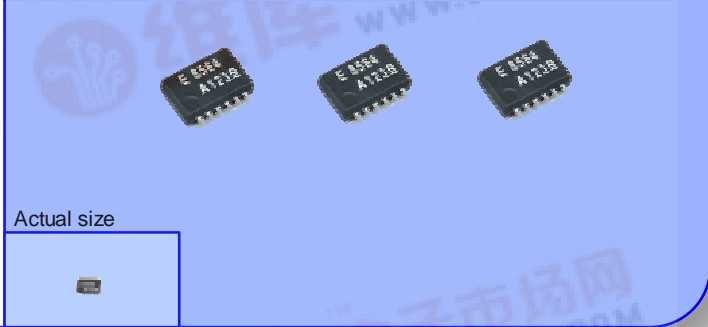


Product Number (Please contact us)
RX-8564LC : Q418564C0xxxx00

RX - 8564 LC

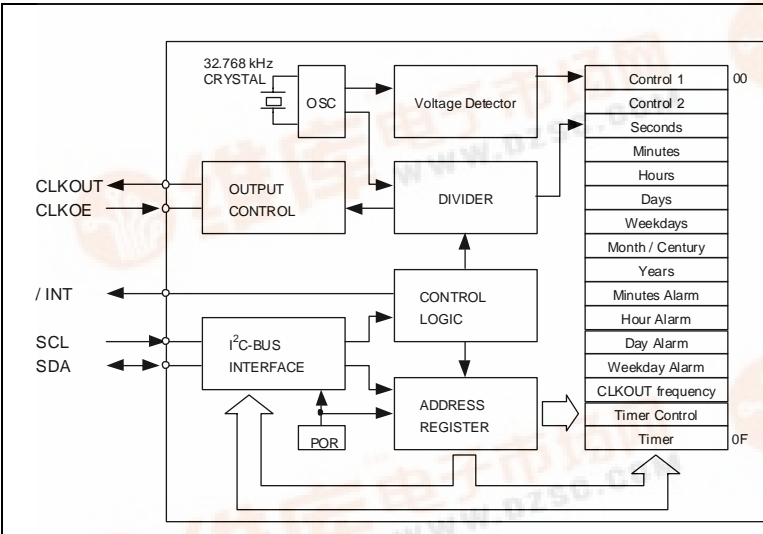
- Built in frequency adjusted 32.768 kHz crystal unit.
- Interface Type : I²C-Bus Interface (400 kHz)
- Operating voltage range : 1.8 V to 5.5 V
- Wide Timekeeper voltage range : 1.0 V to 5.5 V / T_a = +25 °C
- Low backup current : 275 nA / 3.0 V(Typ.)
- 32.768 kHz frequency output function: C-MOS output With Control Pin
- The various functions include full calendar, alarm, timer, and power supply voltage monitoring function.

* The I²C-Bus is a trademark of NXP Semiconductors



Actual size

Block diagram **Overview**

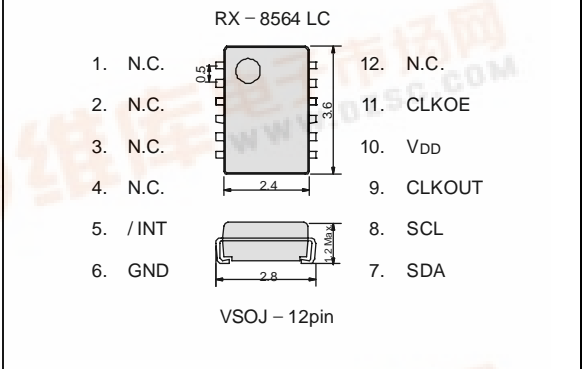


- **Interface Type**
 - I²C hi-speed bus specifications. (400 kHz)
 - I²C-Bus slave address : read A3h and write A2h
- **Low Timekeeper voltage**
 - 1.0 V to 5.5 V / T_a = +25 °C
 - 1.3 V to 5.5 V / T_a = -40 °C to +85 °C
- **32.768 kHz frequency output function**
 - CLKOUT pin output (C-MOS output), CL=30 pF
 - CLKOE pin enables output on/off control.
 - Output selectable <32.768 kHz, 1024 Hz, 32 Hz, 1 Hz>
- **The various interrupt function**
 - Timer function can be set up between 1/4096 second and 255 minutes.
 - Alarm function can be set to any combination of day of week, hour, or minute.

* Functions are compatible with RTC-8564 JE / NB series.

Pin Function **Terminal connection / External dimensions** (Unit:mm)

Signal Name	Input / Output	Function															
SCL	Input	Serial clock input pin															
SDA	Bi-directional	Data input and output pin															
CLKOUT	Output	32.768 kHz clock output pin with the output control function. (C-MOS) CLKOE pin control the condition of CLKOUT pin with FE-bit, FD0-bit, FD0-bit.															
CLKOE	Input	<table border="1"> <thead> <tr> <th>CLKOE pin input</th> <th>FE bit</th> <th>CLKOUT pin output</th> </tr> </thead> <tbody> <tr> <td>HIGH</td> <td>1</td> <td>Output (C-MOS)</td> </tr> <tr> <td></td> <td>0</td> <td>OFF (LOW)</td> </tr> <tr> <td>LOW</td> <td>1</td> <td>OFF (LOW)</td> </tr> <tr> <td></td> <td>0</td> <td>OFF (LOW)</td> </tr> </tbody> </table>	CLKOE pin input	FE bit	CLKOUT pin output	HIGH	1	Output (C-MOS)		0	OFF (LOW)	LOW	1	OFF (LOW)		0	OFF (LOW)
CLKOE pin input	FE bit	CLKOUT pin output															
HIGH	1	Output (C-MOS)															
	0	OFF (LOW)															
LOW	1	OFF (LOW)															
	0	OFF (LOW)															
/INT	Output	Interrupt output (N-ch open drain)															
VDD	—	Connected to a positive power supply.															
GND	—	Connected to a ground.															



Specifications (characteristics) * Refer to application manual for details.

■ Recommended Operating Conditions

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power voltage	VDD	—	1.8	3.0	5.5	V
Clock voltage	VCLK	—	V _{Low}	3.0	5.5	V
Operating temperature	T _{OPR}	—	-40	+25	+85	°C

■ Low voltage detection

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Low voltage detection	V _{Low}	T _a = +25 °C		0.9	1.0	V
		T _a = -20 °C to +70 °C		0.9	1.2	V
		T _a = -40 °C to +85 °C		0.9	1.3	V

■ Frequency characteristics

Item	Symbol	Condition	Rating	Unit
Frequency tolerance	Δf/f	T _a = +25 °C VDD = 3.0 V	5 ± 23 *	× 10 ⁻⁶

■ Current consumption characteristics T_a = -40 °C to +85 °C

Item	Symbol	Condition	VDD	Min.	Typ.	Max.	Unit
Current Consumption	I _{BK}	f _{SCL} = 0 Hz CLKOE = GND CLKOUT ; output OFF (LOW)	VDD = 5 V		330	800	nA
			VDD = 3 V		275	700	nA
Current Consumption	I _{S2k}	f _{SCL} = 0 Hz CLKOE = VDD CLKOUT ; 32.768 kHz Output ON (Output=OPEN ; CL = 0 pF)	VDD = 5 V		2.5	3.4	μA
			VDD = 3 V		1.5	2.2	μA



“QMEMS” EPSON TOYOCOM

查询"RX-8564"供应信息

In order to meet customer needs in a rapidly advancing digital, broadband and ubiquitous society, we are committed to offering products that are one step ahead of the market and a rank above the rest in quality. To achieve our goals, we follow a "3D (three device) strategy" designed to drive both horizontal and vertical growth. We will to grow our three device categories of "Timing Devices", "Sensing Devices" and "Optical Devices", and expand vertical growth through a combination of products from these categories.

A Quartz MEMS is any high added value quartz device that exploits the characteristics of quartz crystal material but that is produced using MEMS (micro-electro-mechanical system) processing technology.

Market needs are advancing faster than previously imagined toward smaller, more stable crystal products, but we will stay ahead of the curve by rolling out products that exceed market speed and quality requirements. We want to further accelerate the 3D strategy by QMEMS.

Quartz devices have become crucial in the network environment where products are increasingly intended for broadband, ubiquitous applications and where various types of terminals can transfer information almost immediately via LAN and WAN on a global scale. Epson Toyocom Corporation addresses every single aspect within a network environment. The new corporation offers "Digital Convergence" solutions to problems arising with products for consumer use, such as, core network systems and automotive systems.



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All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification. In the future, new group companies will be expected to acquire the certification around the third year of operations.

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

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

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ISO/TS 16949 is a global standard based on QS-9000, a severe standard corresponding to the requirements from the automobile industry.

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

	<ul style="list-style-type: none"> ► Pb free. ► Complies with EU RoHS directive.
	<ul style="list-style-type: none"> ► Pb free terminal designed. Contains Pb in products exempted by RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.) ► Complies with EU RoHS directive.
	<ul style="list-style-type: none"> ► The products have been designed for high reliability applications such as Automotive.

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