

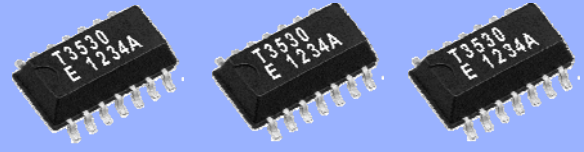
TCXO
32.768 kHz

TG - 3530 SA

- Built-in 32.768 kHz crystal oscillator with high accuracy. (adjustment-free efficient operation)
- Temperature compensated circuit : Stabilized frequency tolerance at any operating temperature.
- Oscillation output voltage : 1.5 V to 5.5 V
- Temperature Compensated Voltage : 2.2 V to 5.5 V
- 32.768 kHz output : C-MOS output, output load : 15 pF



Product Number
Q3721SA02000100



Actual size

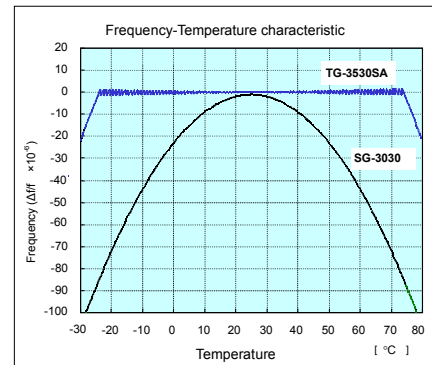


Specifications (characteristics)

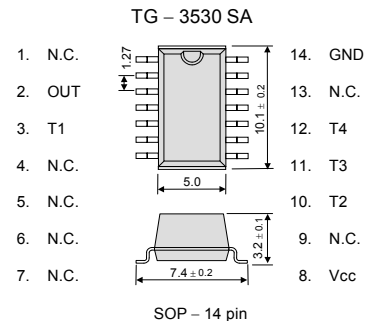
Item	Symbol	Specifications	Conditions / Remarks
Output frequency	f_o	32.768 kHz	
Oscillation output voltage	V_{cc}	1.5 V to 5.5 V	
Temperature compensated voltage	V_{cc}	2.2 V to 5.5 V	
Storage temperature	T_{stg}	-55 °C to +125 °C	Storage as single product.
Operating temperature	T_{use}	-40 °C to +85 °C	
Frequency temperature characteristic	f_o-T_c	$\pm 3.8 \times 10^{-6}$ * Equivalent to 10 seconds of monthly deviation	-10 °C to +60 °C $V_{cc} = 3.0 V$
		$\pm 5.0 \times 10^{-6}$ * Equivalent to 13 seconds of monthly deviation	-20 °C to +70 °C $V_{cc} = 3.0 V$
Frequency voltage coefficient	f_o-V_{cc}	$\pm 1.0 \times 10^{-6} / V$ Max.	+25 °C $V_{cc} = 2.2 V$ to 5.5 V
Current consumption	I_{cc}	6.0 μA (Max.) 3.0 μA (Typ.)	$V_{cc} = 5.0 V$, No load condition
		4.0 μA (Max.) 1.7 μA (Typ.)	$V_{cc} = 3.0 V$, No load condition
Output voltage ("H" level)	V_{OH}	$V_{cc} - 0.4 V$ Min.	$I_{OH} = -0.1 mA$ $V_{cc} = 3.0 V$
Output voltage ("L" level)	V_{OL}	0.4 V Max.	$I_{OL} = 0.1 mA$ $V_{cc} = 3.0 V$
Output load condition	L_{CMOS}	15 pF Max.	CMOS load
Symmetry	SYM	40 % to 60 %	$V_{cc} = 1.5 V$ to 5.5 V 1 / 2 V_{cc} level
Rise time	t_r	200 ns Max.	CMOS load 20 % $V_{cc} \rightarrow 80 \% V_{cc}$
Fall time	t_f	200 ns Max.	CMOS load 80 % $V_{cc} \rightarrow 20 \% V_{cc}$
Start-up time	t_{str}	1.0 s Max. *1)	+25 °C $V_{cc} = 3.0 V$
		3.0 s Max. *1)	-40 °C to +85 °C $V_{cc} = 3.0 V$
Frequency aging	f_{age}	$\pm 3.0 \times 10^{-6} / year$	+25 °C $V_{cc} = 3.0 V$, first year

*1) V_{cc} rise time < 10ms (10 % V_{cc} - 90 % V_{cc})
*2) If not specifically indicated, -40 °C to +85 °C.

Frequency temperature coefficient (Ex.)



Terminal connection



Signal Name	Input / Output	Function
V_{cc}	—	Connected to a positive power supply.
OUT	OUTPUT	32.768 kHz clock output pin (C-MOS).
GND	—	Connected to a ground.
T1, T2, T3, T4	—	* Used by the manufacture for testing. (Do not connect externally.)

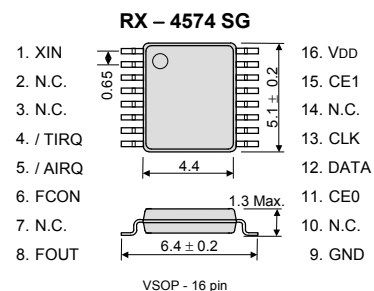
REAL TIME CLOCK IC. For TG - 3530SA

RX - 4574 SG

- By combining TG-3530SA with RX-4574SG (real-time clock IC), it is possible to achieve a very high accuracy clock system.
- Functions are compatible with RX - 4574 LC and RTC - 4574 series (except 32 kHz oscillation function).
- Complies with EU RoHS directive

Note) RX-4574SG does not include the crystal unit.
The external clock resources (CMOS) of 32.768 kHz are necessary.
Please input it from the XIN terminal.

Pin map



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

	<p>► Pb free.</p>
	<p>► 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.)</p>
	<p>► The products have been designed for high reliability applications such as Automotive.</p>

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.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А