CRYSTAL OSCILLATOR (SPXO)

OUTPUT : CMOS

SG-210 STF

- Frequency range : 1 MHz to 75 MHz
- Supply voltage : 1.8 V to 3.3 V Typ.
- Function : Standby($\overline{ST}$)
- External dimensions : 2.5 × 2.0 × 0.8 mm
- Operation temperature : -40 °C to +105 °C

Pb Free / RoHS Compliant

Product Number (please contact us)
X1G004171xxxx00

Actual size

Specifications (characteristics)

Item	Symbol	Specifications			Conditions / Remarks
Output frequency range	fo	1 MHz to 75 MHz			Please contact us about available frequencies.
Supply voltage	V_{CC}	1.60 V to 3.63 V			1 MHz ≤ fo ≤ 60 MHz, T_use=+105 °C Max. (See of figure *1)
		1.71 V to 3.63 V			60 MHz < fo ≤ 75 MHz, T_use=+85 °C Max. (See of figure *1)
		2.25 V to 3.63 V			60 MHz < fo ≤ 75 MHz, T_use=+105 °C Max. (See of figure *1)
Storage temperature	T_stg	-40 °C to +125 °C			Storage as single product.
Operating temperature	T_use	-40 °C to +85 °C / -40 °C to +105 °C			See of figure *1
Frequency tolerance	f_tol	S: ±25 × 10^{-6}			-20 °C to +70 °C
		L: ±50 × 10^{-6}			-40 °C to +85 °C
		Y: ±50 × 10^{-6}, W: ±100 × 10^{-6}			-40 °C to +105 °C
Current consumption	I_{CC}	V_{CC} = 1.8 V±10 %	V_{CC} = 2.5 V±10 %	V_{CC} = 3.3 V±10 %	
		1.5 mA Max.	1.6 mA Max.	1.8 mA Max.	No load condition, 1 MHz < fo ≤ 20 MHz
		1.8 mA Max.	2.0 mA Max.	2.2 mA Max.	No load condition, 20 MHz < fo ≤ 40 MHz
		2.1 mA Max.	2.4 mA Max.	2.6 mA Max.	No load condition, 40 MHz < fo ≤ 60 MHz
		2.4 mA Max.	2.8 mA Max.	3.0 mA Max.	No load condition, 60 MHz < fo ≤ 75 MHz
Stand-by current	I_std	2.1 µA Max.	2.5 µA Max.	2.7 µA Max.	ST =GND
Symmetry	SYM	45 % to 55 %			50 % V_{CC} level, L_CMOS ≤ 15 pF
Output voltage	V_{OH}	V_{CC} - 0.4 V Min.			1.8 V±10 %: -3 mA; 2.5 V±10 %: -4 mA; 3.3 V±10 %: -6 mA
	V_{OL}	0.4 V Max.			1.8 V±10 %: 3 mA; 2.5 V±10 %: 4 mA; 3.3 V±10 %: 6 mA
Output load condition (CMOS)	L_CMOS	15 pF Max.			
Input voltage	V_{IH}	80 % V_{CC} Min.			$\overline{ST}$ terminal
	V_{IL}	20 % V_{CC} Max.			
Rise time and Fall time	tr/ tf	3 ns Max. 3.5 ns Max. (@1.8 V±10 %)			20 % V_{CC} to 80 % V_{CC} level, L_CMOS=15 pF
Start-up time	t_str	3 ms Max.			t=0 at 90 % V_{CC}
Frequency aging	f_aging	±3 × 10^{-6} / year Max.			+25 °C, First year
Phase noise	C/N	-145 dBc/Hz Typ.			@1 kHz, fo = 48 MHz
		-158 dBc/Hz Typ.			@100 kHz, fo = 48 MHz
		-161 dBc/Hz Typ.			@Floor Lv.

Product Name (Standard form)

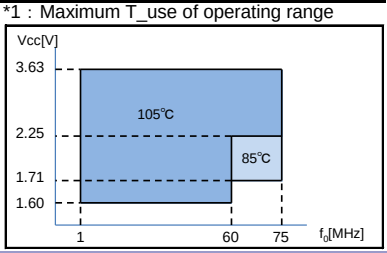
SG-210 S T F 25.000000MHz L
① ②③ ④ ⑤

①Model ②Function (S:Standby)
③Supply voltage ④Frequency
⑤Frequency tolerance

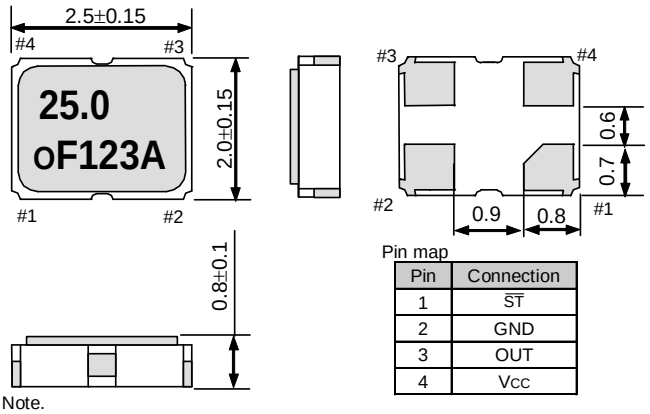
③Supply voltage		
T	1.60 to 3.63 V	See of figure *1

⑤Frequency tolerance	
S	±25 × 10^{-6} / -20 °C to +70 °C
L	±50 × 10^{-6} / -40 °C to +85 °C
Y	±50 × 10^{-6} / -40 °C to +105 °C
W	±100 × 10^{-6} / -40 °C to +105 °C

*1 : Maximum T_use of operating range



External dimensions (Unit:mm)

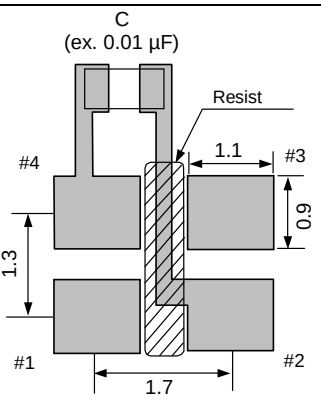


Pin map

Pin	Connection
1	$\overline{ST}$
2	GND
3	OUT
4	Vcc

Note.
$\overline{ST}$ pin = HIGH or "open" : Specified frequency output.
$\overline{ST}$ pin = LOW : Output is high impedance, oscillation stops.

Footprint (Recommended) (Unit:mm)



To maintain stable operation, provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between Vcc - GND).

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	►Pb free.
RoHS Compliant	►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.)
For Automotive	►Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
Automotive Safety	►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 data, circuitry, software, usage, etc. written in this material is intended for reference only. Seiko Epson does not assume any liability for the occurrence of customer damage or 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Epson:

SG-210STF 6.1440ML3 SG-210STF 3.5795ML3 SG-210STF 13.5600ML3 SG-210STF 7.5000ML3 SG-210STF 25.0000ML3 SG-210STF 62.5000ML3 SG-210STF 8.2500ML3 SG-210STF 27.0000ML3 SG-210STF 48.0000MS3 SG-210STF 12.2880MS3 SG-210STF 30.0000ML3 SG-210STF 1.2288ML3 SG-210STF 15.6250ML3 SG-210STF 9.8304ML3 SG-210STF 6.7800ML3 SG-210STF 5.6448ML3 SG-210STF 6.2500ML3 SG-210STF 19.4400ML3 SG-210STF 31.2500ML3 SG-210STF 19.6608ML3 SG-210STF 13.5000ML3 SG-210STF 13.0000ML3 SG-210STF 10.0000ML3 SG-210STF 50.0000MS3 SG-210STF 33.3000ML3 SG-210STF 74.1760ML3 SG-210STF 50.0000ML3 SG-210STF 24.0000MW3 SG-210STF 75.0000ML3 SG-210STF 5.0000ML3 SG-210STF 1.8432ML3 SG-210STF 12.0000ML3 SG-210STF 24.5760ML3 SG-210STF 36.0000ML3 SG-210STF 72.0000ML3 SG-210STF 12.5000ML3 SG-210STF 33.3300ML3 SG-210STF 4.0960ML3 SG-210STF 66.6670ML3 SG-210STF 18.0000ML3 SG-210STF 3.0720ML3 SG-210STF 4.9152ML3 SG-210STF 1.0000ML3 SG-210STF 8.0000MY3 SG-210STF 25.0000MY3 SG-210STF 26.0000ML3 SG-210STF 20.0000ML3 SG-210STF 4.8000ML3 SG-210STF 54.0000ML3 SG-210STF 1.5000ML3 SG-210STF 2.0000ML3 SG-210STF 1.5360ML3 SG-210STF 4.5000ML3 SG-210STF 2.4576ML3 SG-210STF 2.0480ML3 SG-210STF 22.5792ML3 SG-210STF 38.4000ML3 SG-210STF 15.0000ML3 SG-210STF 2.5000ML3 SG-210STF 1.2000ML3 SG-210STF 3.0000ML3 SG-210STF 12.2880ML3 SG-210STF 14.7456ML3 SG-210STF 32.7680ML3 SG-210STF 19.2000ML3 SG-210STF 4.0000ML3 SG-210STF 16.5000ML3 SG-210STF 27.1200ML3 SG-210STF 6.0000ML3 SG-210STF 33.3330MW3 SG-210STF 6.7500ML3 SG-210STF 8.1920ML3 SG-210STF 32.0000ML3 SG-210STF 3.6864ML3 SG-210STF 9.6000ML3 SG-210STF 28.63636ML3 SG-210STF 16.0000ML3 SG-210STF 7.3728ML3 SG-210STF 8.0000ML3 SG-210STF 6.5000ML3 SG-210STF 16.6665ML3 SG-210STF 33.3330ML3 SG-210STF 16.3480ML3 SG-210STF 11.2896MS3 SG-210STF 33.0000ML3 SG-210STF 37.4000ML3 SG-210STF 24.0000ML3 SG-210STF 48.0000ML3 SG-210STF 16.6500ML3 SG-210STF 25.0000MS3 SG-210STF 66.6667ML3 SG-210STF 52.0000ML3 SG-210STF 9.0000ML3 SG-210STF 40.0000ML3 SG-210STF 14.31818ML3 SG-210STF 3.1250ML3 SG-210STF 29.4912ML3 SG-210STF 7.1591ML3 SG-210STF 11.2896ML3 SG-210STF 26.0000MY3

OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

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**».

AVIC 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).

FORSTAR®

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