

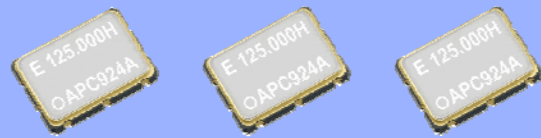
**CRYSTAL OSCILLATOR
LOW-JITTER SAW OSCILLATOR**

EG-2101CA

- Frequency range : 62.5 MHz to 99.999 MHz
 - Supply voltage : 3.3 V
 - Output : Differential LV-PECL
 - Function : Output enable (OE)
 - External dimensions : 7.0 × 5.0 × 1.2 mm
- Very low jitter and low phase noise by SAW unit.



Product Number (please contact us)
Q3803CA00xxxx00



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	fo	62.500 MHz to 99.999 MHz	Please contact us about available frequencies.
Supply voltage	Vcc	3.3 V ±0.15 V	
Storage temperature	T_stg	-40 °C to +100 °C	Storage as single product.
Operating temperature	T_use	0 °C to +70 °C	
Frequency tolerance *1	f_tol	Z: ±50 × 10 ⁻⁶ , H,Y: ±100 × 10 ⁻⁶	
Current consumption	Icc	60 mA Max.	OE=Vcc, L_ECL=50 Ω
Disable current	I_dis	25 mA Max.	OE=GND
Symmetry	SYM	D:47.5 % to 52.5 %	at outputs crossing point
Output voltage	VOH	2.35 V Typ. Vcc-1.025 V to Vcc-0.88 V	DC characteristics
	VOL	1.60 V Typ. Vcc-1.81 V to Vcc-1.62 V	
Output load condition (ECL)	L_ECL	50 Ω	Terminated to Vcc -2.0 V
Input voltage	VIH	70 % Vcc Min.	OE terminal
	VIL	30 % Vcc Max.	
Rise time / Fall time	tr / tf	600 ps Max.	Between 20% and 80% of (VOH-VOL)
Start-up time	t_str	10 ms Max.	Time at minimum supply voltage to be 0 s
	t_dj	0.2 ps Typ.	Deterministic Jitter
	t_rj	3 ps Typ.	Random Jitter
	t_rms	3 ps Typ.	σ (RMS of total distribution)
	t_p-p	25 ps Typ.	Peak to Peak
	t_acc	4 ps Typ.	Accumulated Jitter(σ) n=2 to 50000 cycles
Phase Jitter	t_pj	0.8 ps Max.	fo < 100 MHz
		0.5 ps Max.	100 MHz ≤ fo < 200 MHz
		0.3 ps Max.	200 MHz ≤ fo
Frequency aging	f_aging	± 5 × 10 ⁻⁶ / year Max.	+25 °C, First year, Vcc=3.3 V

*1 As per table below

*2 Tested using a DTS-2075 Digital timing system made by WAVECREST with jitter analysis software VISI6.

Symmetry	H: ±100 × 10 ⁻⁶ (0 °C to +70 °C) *3	D: 50 ±2.5 %
frequency tolerance and operating temperature	Y: ±100 × 10 ⁻⁶ (0 °C to +70 °C) *4	DCH
	Z: ±50 × 10 ⁻⁶ (0 °C to +70 °C) *5	DCY

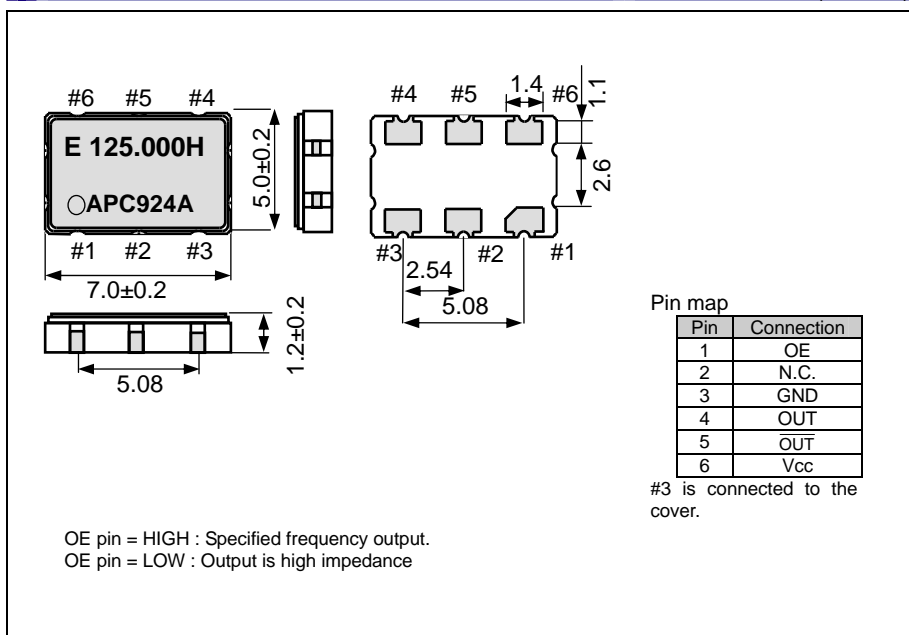
*3 This includes initial frequency tolerance, temperature variation, supply voltage variation, reflow drift, and aging(+25 °C,10 years).

*4 This includes initial frequency tolerance, temperature variation, supply voltage variation, and reflow drift(except aging).

*5 This includes initial frequency tolerance and temperature variation(except supply voltage variation, reflow drift, aging).

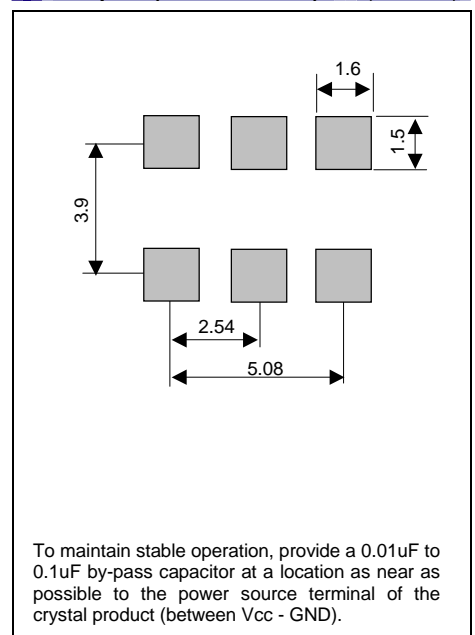
External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)



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.