# CRYSTAL OSCILLATOR (SPXO) OUTPUT: LV-PECL

## **SG3225 / 7050EEN**

Frequency range
 Supply voltage
 Output
 25 MHz to 200 MHz
 2.5 V , 3.3 V
 LV-PECL

 $\begin{array}{lll} \bullet Function & : & Output \ enable \ (OE) \\ \bullet Phase \ jitter & : & 50 \ fs \ Typ. \ (f_0 = 156.25MHz) \\ \end{array}$ 

•Operating temperature : -40 °C to +85 °C

-40 °C to +105 °C



Specifications (characteristics)

Specifications (characteristics)						
Item	Symbol	Specifications	Conditions / Remarks			
Output frequency range	fo	25 MHz to 200 MHz	Please contact us for inquiries regarding available frequencies.			
Supply voltage	Vcc	D : 2.5 V $\pm 0.125$ V , C : 3.3 V $\pm 0.165$ V				
Storage temperature	T_stg	-55 °C to +125 °C	Store as bare product.			
Operating temperature	T_use	G:-40 °C to +85 °C, H:-40 °C to +105 °C				
Frequency tolerance		D : $\pm 25 \times 10^{-6}$ Max. (Not available H : -40 °C to $\pm 105$ °C)	Includes initial tolerance, temperature change, Vcc change and 5 years aging(+25 °C)			
	f_tol	$J: \pm 50 \times 10^{-6} \text{ Max.}$	Includes initial tolerance, temperature change, Vcc change and 10 years aging(+25 °C)			
		L: ±100 × 10 <sup>-6</sup> Max.	Includes initial tolerance, temperature change, Vcc change and 10 years aging(+25 °C)			
Current consumption	Icc	75 mA Max.	OE= Vcc, with output load			
Disable current	I_dis	25 mA Max.	OE=GND			
Symmetry	SYM	45 % to 55 %	At outputs crossing point			
Output voltage	Voh Vol	Vcc-1.1 V Min. Vcc-1.5 V Max.	DC characteristics			
Output load condition	L_ECL	50 Ω	Terminated to Vcc-2.0V			
nput voltage	VIH VIL	70 % Vcc Min. 30 % Vcc Max.	OE terminal			
Rise/Fall times	Tr / Tf	300 ps Max. (Vcc : 3.3V) 350 ps Max. (Vcc : 2.5V)	20% ~ 80% (Voн – Vol)			
Oscillation start up time	t_str	10 ms Max.	10 ms Max. Time at minimum supply voltage to be 0 s			

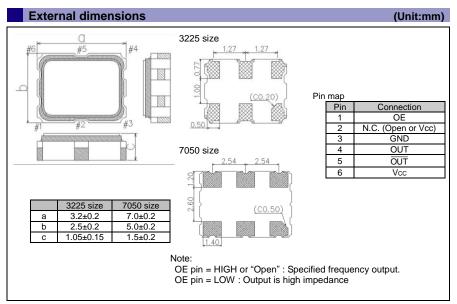
### Phase jitter

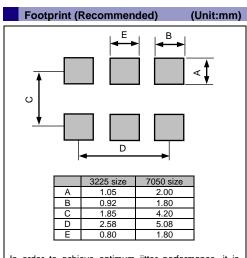
	100 MHz	125 MHz	156.25 MHz	200 MHz
Phase jitter Typ. [fs] (Offset frequency 12k to 20MHz)	75	60	50	40

①Model ②Output (E: LV-PECL) ③Frequency ④Supply voltage (C: 3.3 V Typ. D: 2.5 V Typ.)

⑤ Frequency tolerance (D:  $\pm 25 \times 10^{-6}$  Max. J:  $\pm 50 \times 10^{-6}$  Max. L:  $\pm 100 \times 10^{-6}$  Max.)

 $\textcircled{6} \textbf{Operating temperature (G:-40 to +85^{\circ}C \text{ , H:-40 to +105^{\circ}C)} } \textbf{Olnternal identification code("A" is default)}$ 





In order to achieve optimum jitter performance, it is recommended that the capacitor (0.1  $\mu$ F + 10  $\mu$ F) between Vcc and GND pin should be placed as close to the Vcc pin as possible.

# 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.



 $\blacktriangleright$  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.