

CRYSTAL OSCILLATOR (SPXO)

OUTPUT: LV-PECL, LVDS

SG3225EAN/VAN SG5032EAN/VAN SG7050EAN/VAN

•Achieved wide frequency range by PLL technology and AT crystal units

 Frequency range : 73.5 MHz to 700 MHz •Supply voltage : 2.5 V to 3.3 V Output enable (OE) Function LV-PECL or LVDS • Output





Product Number (please contact us) SG3225EAN: X1G004251xxxx00 SG3225VAN: X1G004241xxxx00 SG5032EAN: X1G004271xxxx00 SG5032VAN: X1G004261xxxx00 SG7050EAN: X1G004291xxxx00 SG7050VAN: X1G004281xxxx00







SG3225EAN/VAN $(3.2 \times 2.5 \times 1.05 \text{ mm})$ SG5032EAN/VAN $(5.0 \times 3.2 \times 1.0 \text{ mm})$

SG7050EAN/VAN $(7.0 \times 5.0 \times 1.4 \text{ mm})$

Actual size

SG3225EAN/VAN

SG5032EAN/VAN

SG7050EAN/VAN

Specifications (characteristics)

	Symbol	Specifications			
Item		LV-PECL	LVDS	Conditions / Remarks	
		SG3225EAN / SG5032EAN /	SG3225VAN / SG5032VAN /	Conditione, 10	omano
		SG7050EAN	SG7050VAN		
Output frequency range	fo	73.5 MHz to 700 MHz		Please contact us about available frequencies.	
Supply voltage	Vcc	K: 2.5 V - 10 % to 3.3 V + 10 %			
Storage temperature	T_stg	-40 °C to +125 °C		Storage as single product.	
Operating temperature	T_use	B: -20 °C to +70 °C, G: -40 °C to +85 °C			
Frequency tolerance	f_tol	$J: \pm 50 \times 10^{-6}, E: \pm 30 \times 10^{-6}, C: \pm 20 \times 10^{-6}$			
Current consumption	Icc	65 mA Max.	30 mA Max.	OE = Vcc, L_ECL = 50Ω or L_LV	OS = 100 Ω
Disable current	I_dis	20 mA Max.		OE = GND	
Symmetry	SYM		o 55 %	At outputs crossing point	
Output voltage (LV-PECL)	Vон	Vcc - 1.0 V to Vcc - 0.8 V	_	DC characteristics	
Sulput Voltage (EV 1 EGE)	Vol	Vcc - 1.78 V to Vcc - 1.62 V	<u> </u>		
Output voltage (LVDS)	Vod	_	250 mV to 450 mV	Vod1, Vod2	
	dVod	_	50 mV Max.	dVod = Vod1-Vod2	50 1 1 1
	Vos	_	1.15 V to 1.35 V	Vos1, Vos2	DC characteristics
	dVos	_	150 mV Max.	dVos = Vos1-Vos2	
Output load condition	L_ECL	50 Ω	_	Terminated to Vcc -2.0 V	
(ECL) / (LVDS)	L_LVDS		100 Ω	Connected between OUT to OUT	
Input voltage	VIH	70 % Vcc Min.		OE terminal	
	VIL	30 % Vcc Max.			
Rise time / Fall time	tr / tf	350 ps Max.	300 ps Max.	LV-PECL: Between 20 % and 80 % of (VOH-VOL). LVDS: Between 20 % and 80 % of Differential Output peak to peak voltage	
Start-up time	t_str	3 ms Max.		Time at minimum supply voltage to be 0 s	
Phase Jitter	tpJ	0.6 ps Max.*1		Offset frequency: 12 kHz to 20 MHz	
Frequency aging	f_aging	$\pm 5 \times 10^{-6}$ / year Max.		+25 °C, First year, Vcc = 2.5 V, 3.3 V	

*1 0.9 ps Max. (fo = 243 MHz ~ 250 MHz, 486 MHz ~ 500 MHz)

Product Name (Standard form)

SG3225 E AN 156.250000MHz K J G A (3) 4567 (66: CG is not available)

②Output (E: LV-PECL, V: LVDS) ③Frequency ④Supply voltage ⑤Frequency tolerance

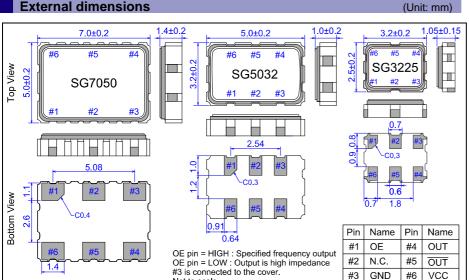
K	2.5 V ~ 3.3 V			

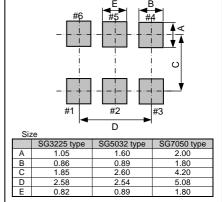
⑤Frequency tolerance				
J	±50 × 10 ⁻⁶			
Е	±30 × 10 ⁻⁶			
С	±20 × 10 ⁻⁶			

В	-20 ℃ ~ +70 ℃			
G	-40 ℃ ~ +85 ℃			

External dimensions

1.05±0.15 3 2+0 2





(Unit: mm)

Footprint (Recommended)

To maintain stable operation, provide a 0.01 µF to 0.1 µF 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.

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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.



▶ Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc.).

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