SEIKO EPSON CORPORATION

CRYSTAL OSCILLATOR (SPXO) OUTPUT : LV-PECL, LVDS

SG3225EAN / VAN SG5032EAN / VAN SG7050EAN / VAN

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

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



Product Number SG3225EAN: X1G004251xxxx00 SG3225VAN: X1G004241xxxx00 SG5032EAN: X1G004271xxxx00 SG5032VAN: X1G004261xxxx00 SG7050EAN: X1G004291xxxx00 SG7050VAN: X1G004281xxxx00







SG3225EAN/VAN (3.2 × 2.5 × 1.05 mm)

SG7050EAN/VAN (5.0 × 3.2 × 1.0 mm) (7.0 × 5.0 × 1.4 mm)

		Specifications				
Item	Symbol	LV-PECL SG3225EAN / SG5032EAN / SG7050EAN	LVDS SG3225VAN / SG5032VAN / SG7050VAN	Conditions / Remarks		
Output frequency range	fo	73.5 MHz t	o 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 $ imes$ 10 ⁻⁶ , E: \pm 30	0 × 10 ⁻⁶ , C: ± 20 × 10 ⁻⁶			
Current consumption	Icc	65 mA Max.	30 mA Max.	OE = Vcc, L_ECL = 50 Ω or L_LVDS = 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		
	Vol	Vcc - 1.78 V to Vcc - 1.62 V	-			
	Vod	-	250 mV to 450 mV	Vod1, Vod2		
Output voltage (LVDS)	dVod	-	50 mV Max.	dVod = Vod1-Vod2	DC characteristics	
output tohugo (2120)	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 % V		OE terminal		
put ronago	VIL	30 % V	cc Max.			
Rise time / Fall time	tr / tr	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 age	\pm 5 × 10 ⁻⁶ / year Max.		+25 °C, First year, Vcc = 2.5 V, 3.3 V		

Product Name (Standard form)

SG3225 E AN 156.250000MHz K J G A \bigcirc (2)(3) (4)(5)(6)(7) (56: CG is not available)

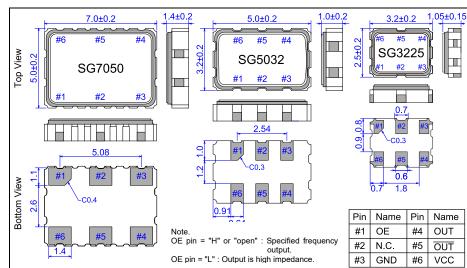
2 Output (E: LV-PECL, V: LVDS) ③Frequency ④Supply voltage ⑤Frequency tolerance ①Model 6 Operating temperature ⑦ Internal identification code ("A" is default)

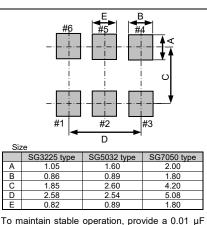
-20 °C ~ +70 °C

(Unit: mm)

④Supply voltage	5 Frequency tolerance		6 Operating temperature		
K 2.5 V ~ 3.3 V		$\pm 50 \times 10^{-6}$	В	-20 °C ~ +70 °C	
11 210 1 010 1	F	$\pm 30 \times 10^{-6}$	G	-40 °C ~ +85 °C	
	C	$\pm 20 \times 10^{-6}$			

External dimensions





(Unit: mm)

Footprint (Recommended)

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.

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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 IATF 16949 certification that is requested strongly by major automotive manufacturers as standard.

Explanation of the mark that are using it for the catalog

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IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

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