

CRYSTAL OSCILLATOR (SPXO)
OUTPUT : LV-PECL

SG3225 / 7050EEN

- Frequency range : 25 MHz to 325 MHz
- Supply voltage : 2.5 V , 3.3 V
- Output : LV-PECL
- Function : Output enable (OE)
- Phase jitter : 50 fs Typ. (f₀ = 156.25MHz)
- Operating temperature : -40 °C to +85 °C
: -40 °C to +105 °C



Product Number (please contact us)
 SG3225EEN X1G005221xxxxxx(f≤200MHz)
 X1G005511xxxxxx(f>200MHz)
 SG7050EEN X1G005131xxxxxx(f≤200MHz)
 X1G005551xxxxxx(f>200MHz)



Actual size

SG3225EEN

SG7050EEN

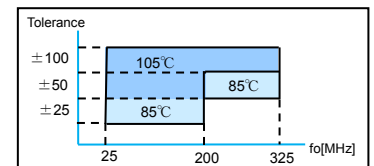
Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks	
Output frequency range	f ₀	25 MHz to 325 MHz	Please contact us for inquiries regarding available frequencies.	
Supply voltage	V _{cc}	D : 2.5 V ±0.125 V , C : 3.3 V ±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	f _{tol}	D : ±25 × 10 ⁻⁶ Max.	Includes initial tolerance, temperature change, V _{cc} change and 5 years aging(+25 °C)	
See of figure *1		J : ±50 × 10 ⁻⁶ Max.		Includes initial tolerance, temperature change, V _{cc} change and 10 years aging(+25 °C)
		L : ±100 × 10 ⁻⁶ Max.		
Current consumption	I _{cc}	60 mA Max.	OE= V _{cc} , with output load	
Disable current	I _{dis}	25 mA Max.	OE=GND	
Symmetry	SYM	45 % to 55 %	At outputs crossing point	
Output voltage	V _{OH} V _{OL}	V _{cc} -1.1 V Min. V _{cc} -1.5 V Max.	DC characteristics	
Output load condition	L _{ECL}	50 Ω	Terminated to V _{cc} -2.0V	
Input voltage	V _{IH} V _{IL}	70 % V _{cc} Min. 30 % V _{cc} Max.	OE terminal	
Rise/Fall times	Tr / Tf	25 MHz ≤ f ₀ ≤ 200 MHz	200 MHz < f ₀ ≤ 325 MHz	
		300 ps Max.	350 ps Max.	
		350 ps Max.	350 ps Max.	
Oscillation start up time	t _{str}	10 ms Max.	Time at minimum supply voltage to be 0 s	

Phase jitter

	100 MHz	125 MHz	156.25 MHz	200 MHz	312.5 MHz
Phase jitter Typ. [fs] (Offset frequency 12k to 20MHz)	75	60	50	40	30

*1 : Maximum T_{use} of operating range



Product Name **SG3225 EEN 156.250000MHz C D G A**

(Standard form) ① ② ③ ④⑤⑥⑦

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

⑤Frequency tolerance (D: ±25 × 10⁻⁶ Max. J: ±50 × 10⁻⁶ Max. L: ±100 × 10⁻⁶ Max.)

⑥Operating temperature (G:-40 to +85°C , H:-40 to +105°C) ⑦Internal identification code("A" is default)

External dimensions

(Unit:mm)

3225 size

7050 size

	3225 size	7050 size
a	3.2±0.2	7.0±0.2
b	2.5±0.2	5.0±0.2
c	1.05±0.15	1.5±0.2

Pin map

Pin	Connection
1	OE
2	N.C. (Open or Vcc)
3	GND
4	OUT
5	OUT
6	Vcc

Note:
 OE pin = HIGH or "Open" : Specified frequency output.
 OE pin = LOW : Output is high impedance

Footprint (Recommended)

(Unit:mm)

	3225 size	7050 size
A	1.05	2.00
B	0.92	1.80
C	1.85	4.20
D	2.58	5.08
E	0.80	1.80

In order to achieve optimum jitter performance, it is recommended that the capacitor (0.1 μF + 10 μF) between V_{cc} and GND pin be placed as close to the V_{cc} pin as possible.

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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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	► 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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