

CRYSTAL OSCILLATOR (SPXO)
OUTPUT : LV-PECL



Product Number (please contact us)
SG3225EEN X1G005221xxxxx
SG7050EEN X1G005131xxxxx

SG3225 / 7050EEN

- Frequency range : 25 MHz to 200 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

Actual size

SG3225EEN

SG7050EEN



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	f ₀	25 MHz to 200 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. (Not available H : -40 °C to +105 °C)	Includes initial tolerance, temperature change, V _{cc} change and 5 years aging(+25 °C)
		J : ±50 × 10 ⁻⁶ Max.	Includes initial tolerance, temperature change, V _{cc} change and 10 years aging(+25 °C)
		L : ±100 × 10 ⁻⁶ Max.	Includes initial tolerance, temperature change, V _{cc} change and 10 years aging(+25 °C)
Current consumption	I _{cc}	75 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 _{cc} -1.1 V Min.	DC characteristics
	V _{OL}	V _{cc} -1.5 V Max.	
Output load condition	L _{ECL}	50 Ω	Terminated to V _{cc} -2.0V
Input voltage	V _{IH}	70 % V _{cc} Min.	OE terminal
	V _{IL}	30 % V _{cc} Max.	
Rise/Fall times	Tr / Tf	300 ps Max. (V _{cc} : 3.3V) 350 ps Max. (V _{cc} : 2.5V)	20% ~ 80% (V _{OH} - V _{OL})
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
Phase jitter Typ. [fs] (Offset frequency 12k to 20MHz)	75	60	50	40

Product Name SG3225 EEN 156.250000MHz C D G A (ⓈⓈ: Not Available code DH)

(Standard form)

- ① Model ② Output (E: LV-PECL) ③ Frequency ④ Supply voltage (C: 3.3 V Typ. D: 2.5 V Typ.)
 ⑤ Frequency tolerance (D: ±25 × 10⁻⁶ Max. J: ±50 × 10⁻⁶ Max. L: ±100 × 10⁻⁶ Max.)
 ⑥ Operating temperature (G:-40 to +85°C , H:-40 to +105°C) ⑦ Internal 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 should 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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