

CRYSTAL OSCILLATOR (SPXO)
OUTPUT : HCSL



Product Number (please contact us)
X1G005141xxxx00

SG3225HBN

- Frequency range : 100 MHz to 325 MHz
- Supply voltage : 2.5V , 3.3 V
- Output : HCSL
- Function : Output enable (OE)
- External dimensions : 3.2 × 2.5 × 1.05 mm
- Phase jitter : 85 fs Typ ($f_0 = 156.25\text{MHz}$)



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	f_0	100 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}	J : $\pm 50 \times 10^{-6}$ (Not available H : -40 °C to +105 °C)	Includes initial tolerance, temperature change, V_{cc} change and 10 years aging(+25 °C)
		L : $\pm 100 \times 10^{-6}$	Includes initial tolerance, temperature change, V_{cc} change and 10 years aging(+25 °C)
Current consumption	I_{cc}	25 mA Typ. 35 mA Max.	OE= V_{cc} , with output load
Disable current	I_{dis}	15 mA Max.	OE=GND
Symmetry	SYM	45 % to 55 %	At outputs crossing point
Output voltage	V_{OH}	0.75 V Typ., 0.66 V to 0.85 V	DC characteristics, single output
	V_{OL}	0 V Typ., -0.15 V to 0.15 V	
Crossing voltage	V_{CR}	0.25 V to 0.55 V	
Output load condition	L HCSL	50 Ω	
	R_s	33 Ω	
Input voltage	V_{IH}	70 % V_{cc} Min.	OE terminal
	V_{IL}	30 % V_{cc} Max.	
differential output rise slew rate/ fall slew rate	Rr / Rf	1 V/ns to 4 V/ns	Between -0.15 V and 0.15 V of differential output
Start-up time	t_{str}	10 ms Max.	Time at minimum supply voltage to be 0 s

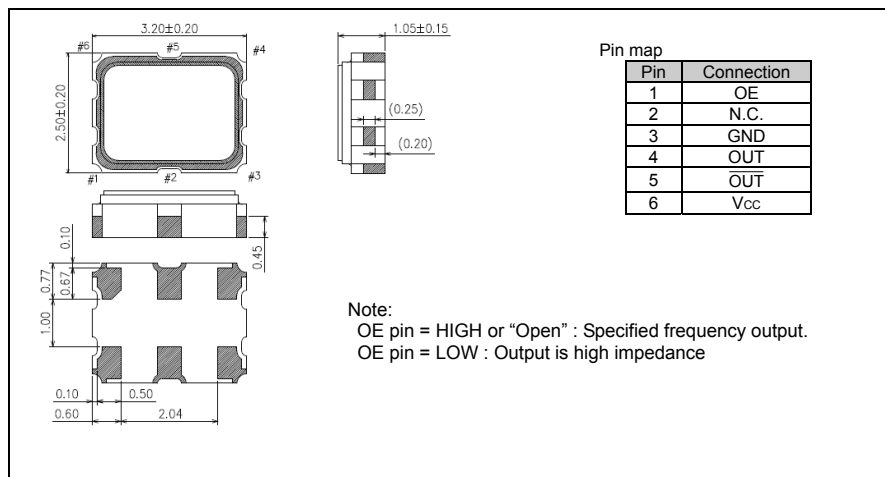
Phase Jitter

Phase Jitter [fs] (Offset Frequency 12k to 20MHz)	Output frequency	100 MHz	125 MHz	156.25 MHz	200 MHz	322.265625 MHz	Supply voltage $V_{cc}=3.3V\pm 0.165V$
	Typ.	110	95	85	75	65	
Max.	180	160	140	125	110		

Product Name **SG3225 HBN 156.250000MHz C J G A** (⑤⑥: Not Available code JH)
 (Standard form) ① ② ③ ④⑤⑥⑦
 ①Model ②Output (H: HCSL) ③Frequency ④Supply voltage (D: 2.5 V Typ. , C: 3.3 V Typ.)
 ⑤Frequency tolerance (J: $\pm 50 \times 10^{-6}$ L: $\pm 100 \times 10^{-6}$)
 ⑥Operating temperature (G: -40 to +85°C, H: -40 to +105°C) ⑦Internal identification code("A" is default)

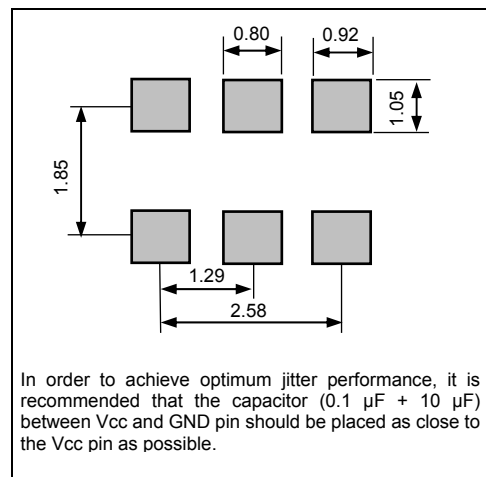
External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)



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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	► 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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