



CRYSTAL OSCILLATOR (SPXO)

OUTPUT : LV-PECL, LVDS



Product Number

SG3225EAN: X1G004251xxx00

SG3225VAN: X1G004241xxx00

SG5032EAN: X1G004271xxx00

SG5032VAN: X1G004261xxx00

SG7050EAN: X1G004291xxx00

SG7050VAN: X1G004281xxx00

SG3225EAN / VAN

SG5032EAN / VAN

SG7050EAN / VAN

- Achieved wide frequency range by PLL technology and Fundamental AT crystal units
- Frequency range : 73.5 MHz to 700 MHz
- Supply voltage : 2.5 V to 3.3 V
- Function : Output enable (OE)
- Output : LV-PECL or LVDS

SG3225EAN/VAN
(3.2 × 2.5 × 1.05 mm)SG5032EAN/VAN
(5.0 × 3.2 × 1.0 mm)SG7050EAN/VAN
(7.0 × 5.0 × 1.4 mm)

Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks	
		LV-PECL	LVDS		
		SG3225EAN / SG5032EAN / SG7050EAN	SG3225VAN / SG5032VAN / SG7050VAN		
Output frequency range	f _o	73.5 MHz to 700 MHz		Please contact us about available frequencies.	
Supply voltage	V _{cc}	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 range	T _{use}	B: -20 °C to +70 °C, G: -40 °C to +85 °C			
Frequency tolerance range	f _{tol}	J: ± 50 × 10 ⁻⁶ , E: ± 30 × 10 ⁻⁶ , C: ± 20 × 10 ⁻⁶			
Current consumption	I _{cc}	65 mA Max.	30 mA Max.	OE = V _{cc} , L ECL = 50 Ω or L LVDS = 100 Ω	
Disable current	I _{dis}	20 mA Max.		OE = GND	
Symmetry	SYM	45 % to 55 %		At outputs crossing point	
Output voltage (LV-PECL)	V _{OH}	V _{CC} - 1.0 V to V _{CC} - 0.8 V	—	DC characteristics	
	V _{OL}	V _{CC} - 1.78 V to V _{CC} - 1.62 V	—		
Output voltage (LVDS)	V _{OD}	—	250 mV to 450 mV	DC characteristics	
	dV _{OD}	—	50 mV Max.		
	V _{OS}	—	1.15 V to 1.35 V		
	dV _{OS}	—	150 mV Max.		
Output load condition (ECL) / (LVDS)	L ECL	50 Ω	—	Terminated to V _{CC} -2.0 V	
	L LVDS	—	100 Ω	Connected between OUT to $\overline{\text{OUT}}$	
Input voltage	V _{IH}	70 % V _{CC} Min.		OE terminal	
	V _{IL}	30 % V _{CC} Max.			
Rise time / Fall time	t _r / t _f	350 ps Max.	300 ps Max.	LV-PECL: Between 20 % and 80 % of (V _{OH} -V _{OL}). 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	tp _j	0.6 ps Max.*1		Offset frequency: 12 kHz to 20 MHz	
Frequency aging	f _{age}	± 5 × 10 ⁻⁶ / year Max.		+25 °C, First year, V _{CC} = 2.5 V, 3.3 V	

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

Product Name SG3225 EAN 156.250000MHz K J G A (5⑥: CG is not available)

(Standard form)

① Model ② Output (E: LV-PECL, V: LVDS) ③ Frequency ④ Supply voltage ⑤ Frequency tolerance

⑥ Operating temperature ⑦ Internal identification code ("A" is default)

④ Supply voltage

K	2.5 V ~ 3.3 V
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⑤ Frequency tolerance

J

E

C

±50 × 10⁻⁶±30 × 10⁻⁶±20 × 10⁻⁶

⑥ Operating temperature

B

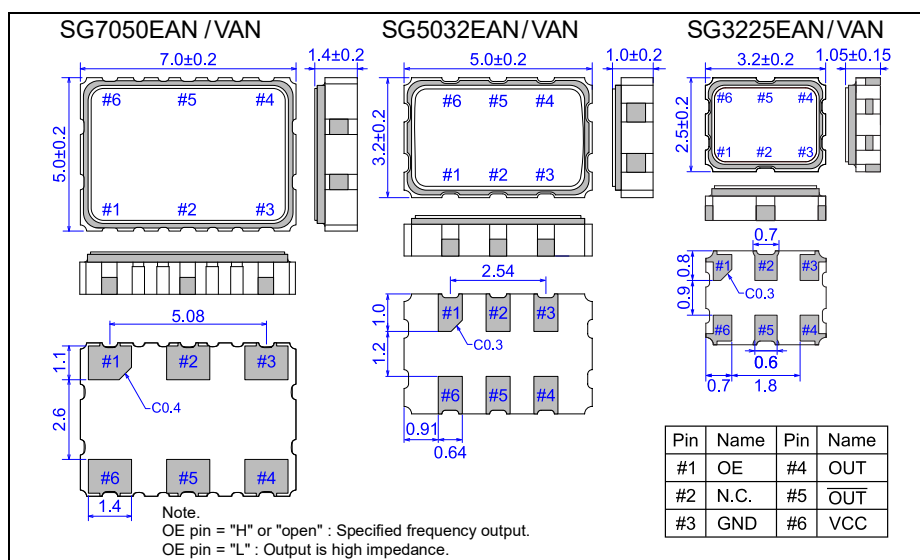
G

-20 °C ~ +70 °C

-40 °C ~ +85 °C

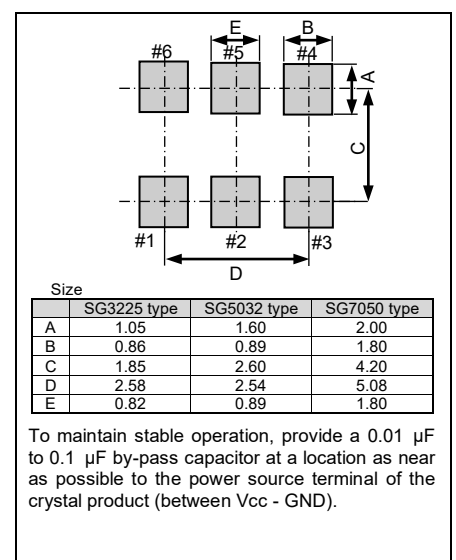
External dimensions

(Unit: mm)



Footprint (Recommended)

(Unit: mm)



► 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 general equipment.
	► Designed for automotive applications related to driving and safety.

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