

**LOW-JITTER SAW OSCILLATOR (SPSO)****OUTPUT : LV-PECL, LVDS****For high temperature environment**

Product Number

XG-2103CA P: X1M000321xxxx00**XG-2103CA L: X1M000361xxxx00****XG-2103CA**

- Frequency range : 100 MHz to 700 MHz
- Supply voltage : 3.3 V
- Output : LV-PECL or LVDS
- Function : Output enable (OE)
- External dimensions : 7.0 × 5.0 × 1.2 mm

- Low jitter and low phase noise by SAW unit.

**Specifications (characteristics)**

Item	Symbol	LV-PECL	LVDS	Conditions / Remarks	
Output frequency range	f _o	100 MHz to 700 MHz		Please contact us about available frequencies.	
Supply voltage	V _{CC}	3.3 V ± 0.33 V			
Storage temperature	T _{stg}	-55 °C to +125 °C		Storage as single product.	
Operating temperature	T _{use}	P: 0 °C to +70 °C, R: -5 °C to +85 °C, S: -20 °C to +70 °C			
Frequency tolerance	f _{tol}	H: ±100 × 10 ⁻⁶			
Current consumption	I _{CC}	60 mA Max.	30 mA Max.	OE=V _{CC} , L _{ECL} =50 Ω or L _{LVDS} =100 Ω	
Disable current	I _{dis}	2 mA Max.	15 mA Max.	OE=GND	
Symmetry	SYM	45 % to 55 %		At outputs crossing point	
Output voltage (LV-PECL)	V _{OH}	2.35 V Typ.	—	DC characteristics	
		V _{CC} -1.025 V to V _{CC} -0.88 V	—		
	V _{OL}	1.60 V Typ.	—		
		V _{CC} -1.81 V to V _{CC} -1.62 V	—		
Output voltage (LVDS)	V _{OD}	—	350 mV Typ, 247 mV to 454 mV	V _{OD1} , V _{OD2}	DC characteristics
	dV _{OD}	—	50 mV Max.	dV _{OD} = V _{OD1} -V _{OD2}	
	V _{OS}	—	1.25 V Typ, 1.125 V to 1.375 V	V _{OS1} , V _{OS2}	
	dV _{OS}	—	150 mV Max.	dV _{OS} = V _{OS1} -V _{OS2}	
Output load condition (ECL) / (LVDS)	L _{ECL}	50 Ω	—	Terminated to V _{CC} -2.0 V	
	L _{LVDS}	—	100 Ω	Connected between OUT to 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	400 ps Max.		Between 20 % and 80 % of (V _{OH} -V _{OL}). Between 20 % and 80 % of Differential Output Peak to Peak voltage.	
Start-up time	t _{str}	10 ms Max.		Time at minimum supply voltage to be 0 s	
Phase Jitter	t _{PJ}	0.23 ps Max.	0.27 ps Max.	100 MHz ≤ f _o < 150 MHz	Offset frequency: 12 kHz to 20 MHz
		0.22 ps Max.	0.24 ps Max.	150 MHz ≤ f _o < 200 MHz	
		0.21 ps Max.	0.23 ps Max.	200 MHz ≤ f _o < 300 MHz	
		0.18 ps Max.	0.19 ps Max.	300 MHz ≤ f _o < 400 MHz	
		0.16 ps Max.	0.16 ps Max.	400 MHz ≤ f _o < 500 MHz	
		0.14 ps Max.	0.14 ps Max.	500 MHz ≤ f _o < 600 MHz	
		0.10 ps Max.	0.10 ps Max.	600 MHz ≤ f _o ≤ 700 MHz	
Frequency aging	f _{age}	H: Included in Frequency tolerance		Max operating temperature, 5 years, V _{CC} = 3.3 V	

Product Name **XG-2103CA 156.25000MHz P H R H**

(Standard form)

- ① ② ③ ④ ⑤ ⑥ ⑦
- ① Model ② Package type ③ Frequency
- ④ Output(P:LV-PECL, L:LVDS)
- ⑤ Frequency tolerance ⑥ Operating temperature
- ⑦ Frequency aging (H¹: Frequency tolerance include aging)

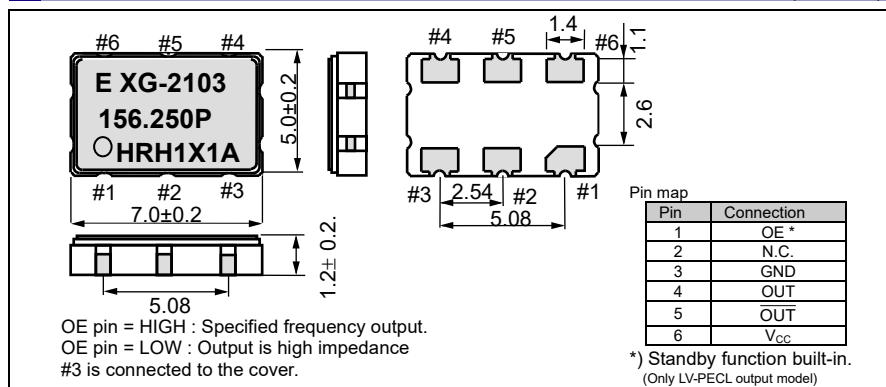
⑤ Frequency tolerance	
H	±100 × 10 ⁻⁶

⑥ Operating temp.	
P	0 °C to +70 °C
R	-5 °C to +85 °C
S	-20 °C to +70 °C

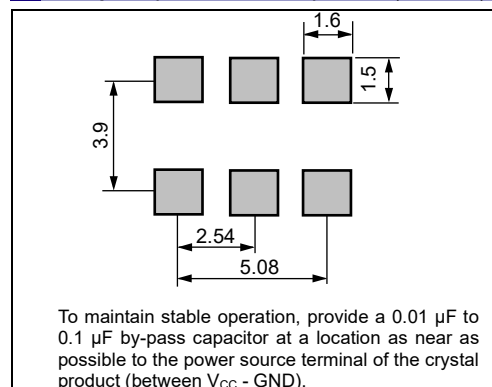
*1 This includes initial frequency tolerance, temperature variation, supply voltage change, reflow drift and estimation of 5 years aging at max operating temperature.

External dimensions

(Unit:mm)

**Footprint (Recommended)**

(Unit:mm)



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