

LOW-JITTER SAW OSCILLATOR (SPSO)
OUTPUT : CMOS

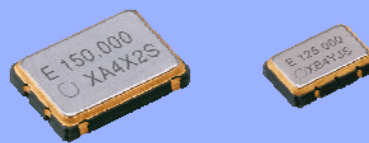
XG-1000CA / CB

- Output frequency range : 50 MHz to 170 MHz
- Supply voltage : 1.8 V / 2.5 V / 3.3 V
- Frequency tolerance : $\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$
- Output : CMOS
- Function : Output enable (OE)
- External dimensions : CA: 7.0×5.0×1.2 mm
 CB: 5.0×3.2×1.1 mm

- Very low jitter and low phase noise by SAW unit.



Product Number (please contact us)
 XG-1000CA: Q3851CA00xxxx00
 XG-1000CB: Q3851CB00xxxx00



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range *1	f _o	50.000 MHz to 170.000 MHz 75.000 MHz, 98.304 MHz, 100.000 MHz, 106.250 MHz, 125.000 MHz, 150.000 MHz	Standard frequency
Supply voltage	V _{cc}	E: 1.8 V ±0.1V D: 2.5 V ±0.125 V C: 3.3 V ±0.3V	
Storage temperature	T _{stg}	-40 °C to +100 °C	Storage as single product.
Operating temperature	T _{use}	-10°C to +70°C	
Frequency tolerance *2	f _{tol}	B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$	
Current consumption	I _{cc}	20 mA Max. 25 mA Max. 35 mA Max.	OE=V _{cc} , No load condition
Disable current	I _{dis}	15 mA Max. 20 mA Max. 30 mA Max.	OE=GND
Symmetry	SYM	40 % to 60 % 45 % to 55 %	f _o ≤ 125 MHz 50 % V _{cc} level, L _{CMOS} ≤ Max.
Output voltage	V _{OH}	V _{cc} -0.35 V Min.	E: I _{OH} = -6 mA / C, D: I _{OH} = -8 mA
	V _{OL}	0.35 V Max.	E: I _{OL} = 6 mA / C, D: I _{OL} = 8 mA
Output load condition (CMOS)	L _{CMOS}	15 pF Max.	
Input voltage	V _{IH}	70 % V _{cc} Min.	
	V _{IL}	30 % V _{cc} Max.	OE terminal
Rise time / Fall time	t _r / t _f	2 ns Max.	Between 20% V _{cc} and 80% V _{cc} level, L _{CMOS} ≤ Max
Start-up time	t _{str}	10 ms Max.	Time at minimum supply voltage to be 0 s
Jitter *3	t _{RMS}	3 ps Typ.	σ (RMS of total distribution)
	t _{p-p}	25 ps Typ.	Peak to Peak
Frequency aging	f _{aging}	$\pm 5 \times 10^{-6}$ / year Max.	+25 °C, First year, V _{cc} =1.8 V, 2.5 V, 3.3 V

*1 Please contact us for requirements non-standard frequencies.
 *2 This includes initial frequency tolerance, temperature variation, supply voltage variation and load variation.
 *3 Tested using a DTS-2075 Digital timing system made by WAVECREST with jitter analysis software VISI6.

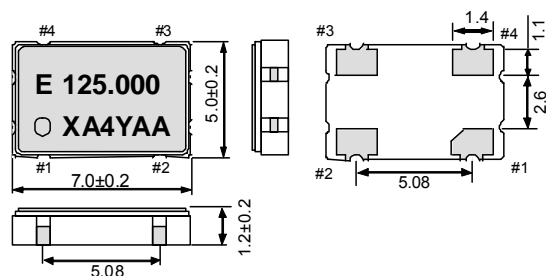
Product Name **XG-1000 CA 150.000000MHz D B**
 (Standard form) ① ② ③ ④ ⑤
 ① Model ② Package type ③ Frequency
 ④ Supply voltage
 ⑤ Frequency tolerance / Operating temperature

④ Supply voltage	⑤ Frequency tolerance
C 3.3 V Typ.	B $\pm 50 \times 10^{-6}$ / -10 to +70°C
D 2.5 V Typ.	C $\pm 100 \times 10^{-6}$ / -10 to +70°C
E 1.8 V Typ.	

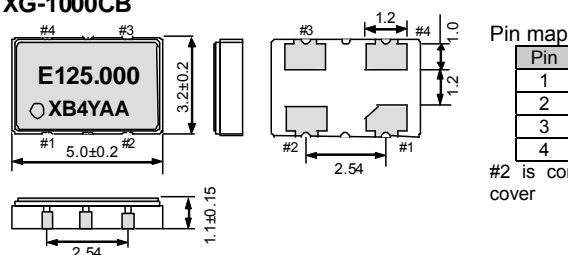
External dimensions

(Unit:mm)

● XG-1000CA



● XG-1000CB



Pin map

Pin	Connection
1	OE
2	GND
3	OUT
4	V _{cc}

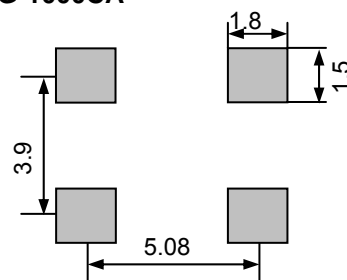
#2 is connected to the cover

OE pin = HIGH : Specified frequency output.
 OE pin = LOW : Output is high impedance

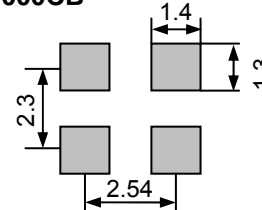
Footprint (Recommended)

(Unit:mm)

● XG-1000CA



● XG-1000CB



To maintain stable operation, provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between V_{cc} - GND).

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► 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 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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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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