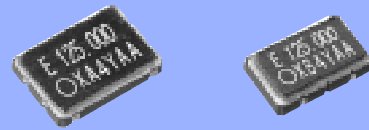


**CRYSTAL OSCILLATOR  
LOW-JITTER SAW OSCILLATOR**

**XG - 1000CA / CB series**

- Output frequency range : 50 MHz to 170 MHz
- Supply voltage : 1.8V / 2.5V / 3.3V
- Frequency tolerance :  $\pm 50 \times 10^{-6}$ ,  $\pm 100 \times 10^{-6}$
- Output : CMOS
- Function : Output enable(OE)
- Package size : CA: 7.0x5.0x1.2 mm Typ.  
CB: 5.0x3.2x1.1 mm Typ.
- Low-jitter oscillator with SAW.



Actual size

XG-1000CA

XG-1000CB



**Specifications (characteristics)**

Item	Symbol	Specifications			Remarks
		E	D	C	
Output frequency range *1	$f_0$	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 <sub>cc</sub>	1.8 V $\pm$ 0.1V	2.5 V $\pm$ 0.125 V	3.3 V $\pm$ 0.3V	
Temperature range	T <sub>stg</sub>	-40 °C to +100 °C			Store as bare product after unpacking
Operating temperature	T <sub>use</sub>	-10 °C to +70 °C			
Frequency tolerance *2	F <sub>tol(osc)</sub>	B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$			-10 °C to +70 °C
Current consumption	I <sub>cc</sub>	20 mA Max.	25 mA Max.	35 mA Max.	No load condition, OE=V <sub>cc</sub>
Output disable current	I <sub>dis</sub>	15 mA Max.	20 mA Max.	30 mA Max.	OE=GND
Symmetry	SYM	40 % to 60 %			CMOS load: 50 % V <sub>cc</sub> level, Max. load condition
High output voltage	V <sub>OH</sub>	V <sub>cc</sub> -0.35 V Min			E: I <sub>OH</sub> = -6 mA / C, D: I <sub>OH</sub> = -8 mA
Low output voltage	V <sub>OL</sub>	0.35 V Max.			E: I <sub>OL</sub> = 6 mA / C, D: I <sub>OL</sub> = 8 mA
Output load condition (CMOS)	L <sub>CMOS</sub>	15 pF Max.			Max. frequency and Max. supply voltage range
Output enable/ Disable input voltage	V <sub>IH</sub> V <sub>IL</sub>	70 % V <sub>cc</sub> Min. 30 % V <sub>cc</sub> Max.			OE terminal
Output rise and fall time	t <sub>r</sub> / t <sub>f</sub>	2 ns Max.			CMOS load : 20 % V <sub>cc</sub> to 80 % V <sub>cc</sub> level
Oscillation start up time	t <sub>OSC</sub>	10 ms Max.			Time at minimum supply voltage to be 0 s
Jitter *3	t <sub>RMS</sub>	3 ps Typ.			$\sigma$ (RMS of total distribution)
	t <sub>p-p</sub>	25 ps Typ.			Peak to Peak
Frequency aging	F <sub>aging</sub>	$\pm 5 \times 10^{-6}$ / year Max.			+25 °C, First year, V <sub>cc</sub> =1.8 V, 2.5 V, 3.3 V

\*1 Please contact us for inquiries regarding non-standard frequencies.

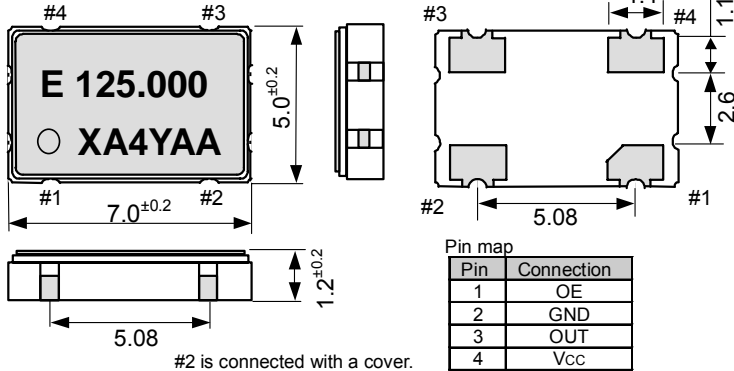
\*2 This includes initial frequency tolerance, temperature variation, supply voltage variation and frequency tolerance vs. load.

\*3 Based on DTS-2075 Digital timing system made from WAVECREST with jitter analysis software VISI6.

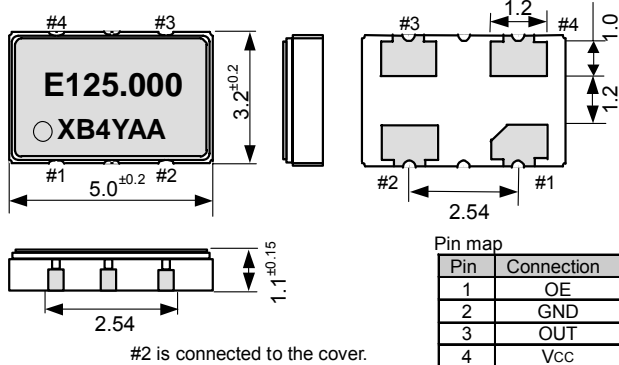
**External dimensions**

(Unit:mm)

● XG-1000CA



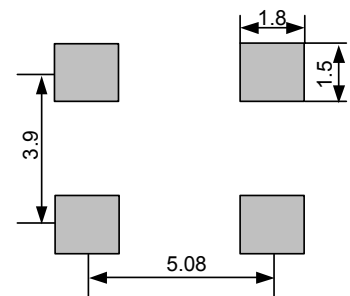
● XG-1000CB



**Footprint (Recommended)**

(Unit:mm)

● XG-1000CA



● XG-1000CB

