



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 _{cc}	1.8 V ± 0.1 V	2.5 V ± 0.125 V	3.3 V ± 0.3 V	
Temperature range	Storage temperature T _{stg}	-40 °C to +100 °C			Store as bare product after unpacking
	Operating temperature T _{use}	-10 °C to +70 °C			
Frequency tolerance *2	f _{tol(osc)}	B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$			-10 °C to +70 °C
Current consumption	I _{cc}	20 mA Max.	25 mA Max.	35 mA Max.	No load condition, OE=V _{cc}
Output disable current	I _{dis}	15 mA Max.	20 mA Max.	30 mA Max.	OE=GND
Symmetry	SYM	40 % to 60 %			CMOS load: 50 % V _{cc} level, Max. load condition
High output voltage	V _{OH}	V _{cc} -0.35 V Min			E: I _{OH} = -6 mA / C, D: I _{OH} = -8 mA
Low output voltage	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.			Max. frequency and Max. supply voltage range
Output enable/Disable input voltage	V _{IH} V _{IL}	70 % V _{cc} Min. 30 % V _{cc} Max.			OE terminal
Output rise and fall time	t _r / t _f	2 ns Max.			CMOS load : 20 % V _{cc} to 80 % V _{cc} level
Oscillation start up time	t _{osc}	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 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)

Footprint (Recommended)

(Unit:mm)

