



## VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO) OUTPUT : CMOS

# VG-4501CA VG-4502CA

- Frequency range : 80 MHz to 170 MHz (VG-4501CA)  
: 80 MHz to 125 MHz (VG-4502CA)
- Supply voltage : 3.3 V
- Absolute pull range :  $\pm 50 \times 10^{-6}$  Min./  $\pm 100 \times 10^{-6}$  Min.
- External dimensions: 7.0 × 5.0 × 1.6 mm
- Function : Output enable (OE), Active High



Product Number (please contact us)

VG-4501CA :

X1G003771xxxx00 ( $f_o \leq 125\text{MHz}$ )X1G004191xxxx00 ( $125\text{MHz} < f_o$ )

VG-4502CA :

X1G003751xxxx00



Actual size



### Specifications (characteristics)

Item	Symbol	VG-4501CA	VG-4502CA	Conditions / Remarks
Output frequency range	$f_o$	80.000 to 170.000 MHz	80.000 to 125.000 MHz	Please contact us about available frequencies.
Supply voltage	V <sub>cc</sub>	3.3 V $\pm 0.165$ V		
Storage temperature	T <sub>stg</sub>	-55 °C to +125 °C		Storage as single product.
Operating temperature	T <sub>use</sub>	G: -40 to +85°C, J: -20 to +70°C, K: 0 to +70°C		
Frequency tolerance	f <sub>tol</sub>	$\pm 50 \times 10^{-6}$ Max.		-40 °C to +85 °C
Current consumption	I <sub>cc</sub>	25 mA Max. ( $f_o \leq 125\text{MHz}$ ) 35 mA Max. ( $125\text{MHz} < f_o$ )	25 mA Max.	L <sub>CMOS</sub> = 15pF
Absolute pull range*1	APR	G: $\pm 50 \times 10^{-6}$ Min. (80 MHz $\leq f_o \leq 170\text{MHz}$ ) H: $\pm 100 \times 10^{-6}$ Min. (125 MHz $< f_o$ )	H: $\pm 100 \times 10^{-6}$ Min.	V <sub>c</sub> = 1.65 V $\pm 1.65$ V
Input resistance	R <sub>in</sub>	80 k $\Omega$ Min.		DC level
Frequency change polarity	—	Positive slope		V <sub>c</sub> = 0 to 3.3 V
Symmetry	SYM	45 % to 55 %		50 % V <sub>cc</sub> level
Output voltage	V <sub>OH</sub>	90 % V <sub>cc</sub> Min.		I <sub>OH</sub> = -0.8 mA
	V <sub>OL</sub>	10 % V <sub>cc</sub> Max.		I <sub>OL</sub> = 3.2 mA
Output load condition (CMOS)	L <sub>CMOS</sub>	15 pF Max.		
Input voltage	V <sub>IH</sub>	70 % V <sub>cc</sub> Min.		
	V <sub>IL</sub>	30 % V <sub>cc</sub> Max.		
Rise time / Fall time	tr / tf	4 ns Max. ( $f_o \leq 125\text{MHz}$ )	4 ns Max.	20 % V <sub>cc</sub> to 80 % V <sub>cc</sub> level
		2 ns Max. ( $125\text{MHz} < f_o$ )		
Start-up time	t <sub>str</sub>	10 ms Max.		Time at minimum supply voltage to be 0 s
Frequency aging	f <sub>aging</sub>	This is included Absolute pull range		+25 °C, V <sub>cc</sub> = 3.3 V, 20 years

\*1 Absolute pull range = Frequency control range - Frequency tolerance

\* Please keep V<sub>c</sub> pin open or ground while powering up V<sub>cc</sub>.

Product Name VG-4501CA - 122.880000 - G G C T

(Standard form) ① ② ③ ④⑤⑥⑦

① Model ② Package type ③ Frequency(MHz) ④ Operating temperature ⑤ Absolute pull range

⑥ Supply voltage (C: 3.3V Typ.) ⑦ OE function

④ Operating temperature	
G	-40 to +85°C
J	-20 to +70°C
K	0 to +70°C

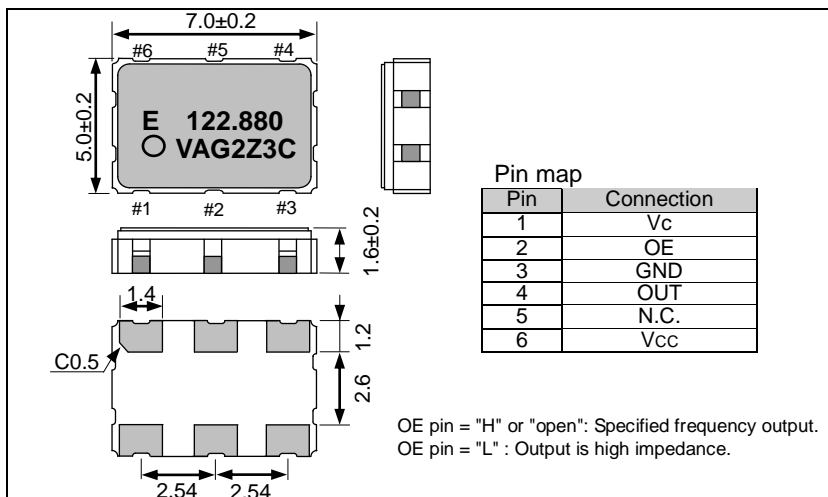
⑤ Absolute pull range	
H	$\pm 100 \times 10^{-6}$ Min.
G	$\pm 50 \times 10^{-6}$ Min.

\*As for VG-4502 only H is available

⑦ OE function	
T	Active High

### External dimensions

(Unit : mm)



### Footprint (Recommended)

(Unit : mm)

