



VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO)

VG-4501CA
VG-4502CA**NEW**

- Frequency range : 80 MHz ~ 170 MHz (VG-4501CA)
- : 80 MHz ~ 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	Specifications		Conditions / Remarks
		VG-4501CA	VG-4502CA	
Output frequency range	f_o	80.000 MHz~170.000 MHz	80.000 MHz~125.000 MHz	Please contact us for inquiries regarding available frequencies.
Supply voltage	V_{cc}	3.3 V ± 0.165 V		
Storage temperature	T_{stg}	-55 °C~+125 °C		Store as bare product.
Operating temperature	T_{use}	As per below table.		
Frequency tolerance	f_{tol}	$\pm 50 \times 10^{-6}$ Max.		-40 °C to +85 °C
Current consumption	I_{cc}	25 mA Max. ($f_o \leq 125\text{MHz}$) 35 mA Max. ($125\text{ MHz} < f_o$)	25 mA Max.	$L_{CMOS} = 15\text{pF}$
Absolute pull range*1	APR	GCT: $\pm 50 \times 10^{-6}$ Min. (80 MHz $\leq f_o \leq 170\text{MHz}$) HCT: $\pm 100 \times 10^{-6}$ Min. (125 MHz $< f_o$)	HCT: $\pm 100 \times 10^{-6}$ Min.	$V_c = 1.65\text{ V} \pm 1.65\text{ V}$
Input resistance	R_{in}	80 k Ω Min.		DC level
Frequency change polarity	—	Positive slope		$V_c = 0 \sim 3.3\text{ V}$
Symmetry	SYM	45 %~55 %		50 % V_{cc} level
Output voltage	V_{OH}	90 % V_{cc} Min.		$L_{CMOS} = 15\text{pF}$
	V_{OL}	10 % V_{cc} Max.		$L_{CMOS} = 15\text{pF}$
Output load condition (CMOS)	L_{CMOS}	15 pF Max.		
Input voltage	V_{IH}	70 % V_{cc} Min.		
	V_{IL}	30 % V_{cc} Max.		
Rise time / Fall time	t_r / t_f	4 ns Max. ($f_o \leq 125\text{MHz}$) 2 ns Max. ($125\text{ MHz} < f_o$)	4 ns Max.	20 % V_{cc} to 80 % V_{cc} level
Start-up time	t_{str}	10 ms Max.		Time at minimum supply voltage to be 0 s
Frequency aging	f_{aging}	This is included Absolute pull range		+25 °C, $V_{cc} = 3.3\text{ V}$, 20 years

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

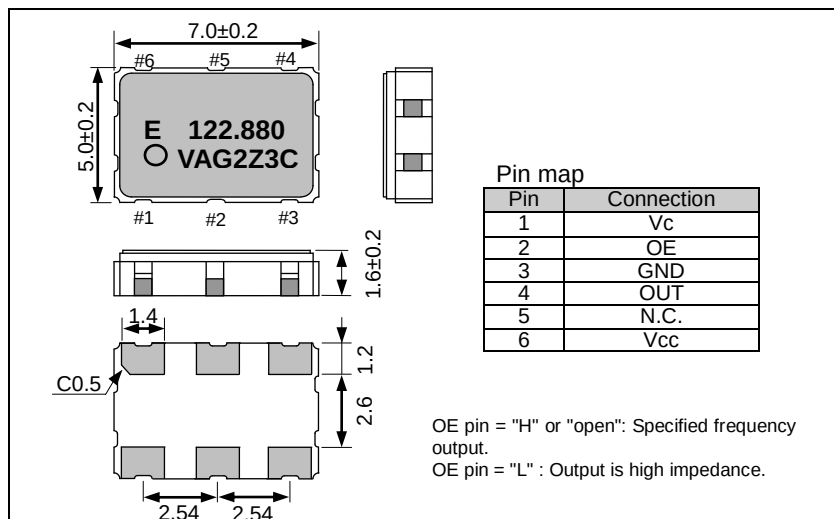
* Please keep V_c pin open or ground while powering up V_{cc} .

Operating temperature range

Operating temperature range		Absolute pull range	
		$\pm 50 \times 10^{-6}$ Min.	$\pm 100 \times 10^{-6}$ Min.
G	-40 °C to +85 °C	GGCT	GHCT
J	-20 °C to +70 °C	JGCT	JHCT
K	0 °C to +70 °C	KGCT	KHCT

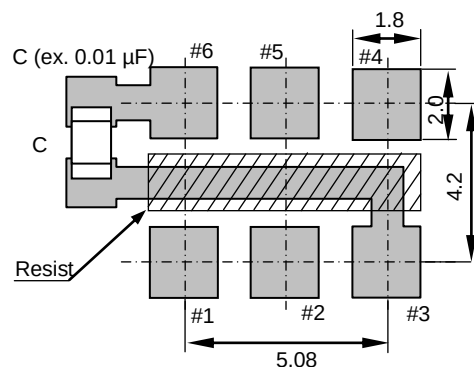
External dimensions

(Unit :mm)



Footprint (Recommended)

(Unit :mm)



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