



VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO)

NEW

VG-4513CA

- Frequency range : 100 MHz to 500 MHz
- Supply voltage : 3.3 V
- Absolute pull range : 30×10^{-6} , 50×10^{-6} , 100×10^{-6}
- External dimensions : $7.0 \times 5.0 \times 1.6$ t (mm) Typ.
- Function : Output Enable(OE)
Active High or Low
- Output : LV-PECL



Product Number (please contact us)
X1G004141xxxx00



Actual size



Specifications (characteristics)

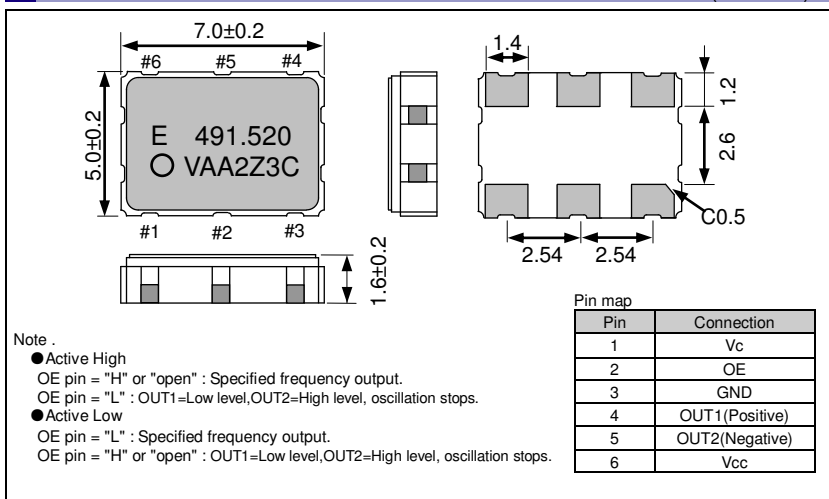
Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	fo	100.000 MHz to 500.000 MHz	Please contact us about available frequencies.
Supply voltage	Vcc	3.3 V \pm 0.165 V	
Storage temperature range	T_stg	-55 °C to +125 °C	
Operating temperature range	T_use	-40 °C to +85 °C	
Current consumption	Icc	65 mA Max.	
Frequency tolerance	f_tol	100 MHz \leq fo \leq 200 MHz : $\pm 50 \times 10^{-6}$ Max. 200 MHz $<$ fo \leq 500 MHz : $\pm 70 \times 10^{-6}$ Max.	Includes initial tolerance, temperature change, Vcc change and 10years aging
Absolute pull range	APR	120 MHz \leq fo \leq 200 MHz $\pm 30 \times 10^{-6}$ Min. $\pm 50 \times 10^{-6}$ Min. $\pm 100 \times 10^{-6}$ Min. 100 MHz \leq fo $<$ 120 MHz, 200 MHz $<$ fo \leq 500 MHz $\pm 30 \times 10^{-6}$ Min. $\pm 50 \times 10^{-6}$ Min.	Vc= 1.65 V \pm 1.65 V
Input resistance	Rin	100 k Ω Min.	DC level
Output load condition	L_ECL	50 Ω at Vcc -2.0V	
High output voltage	VOH	Vcc-1.1 V Min.	
Low output voltage	VOL	Vcc-1.5 V Max.	
Symmetry	SYM	40 % to 60 %	at Vcc-1.30 V, Vc=1/2Vcc
Rise/Fall times	Tr/Tf	0.5 ns Max.	at 20 % to 80 % output swing
High input voltage	VIH	70% Vcc Min.	
Low input voltage	VIL	30% Vcc Max.	
Oscillation start up time	t_str	10ms Max.	

Item	Offset frequency	122.88 MHz	153.6 MHz	245.76 MHz	368.64 MHz	491.52 MHz
Phase noise (Typical value) APR $\pm 50 \times 10^{-6}$ Min.	10 Hz	-75 dBc/Hz	-70 dBc/Hz	-64 dBc/Hz	-57 dBc/Hz	-55 dBc/Hz
	100 Hz	-105 dBc/Hz	-100 dBc/Hz	-94 dBc/Hz	-87 dBc/Hz	-85 dBc/Hz
	1 kHz	-129 dBc/Hz	-124 dBc/Hz	-118 dBc/Hz	-114 dBc/Hz	-110 dBc/Hz
	10 kHz	-147 dBc/Hz	-143 dBc/Hz	-138 dBc/Hz	-137 dBc/Hz	-132 dBc/Hz
	100 kHz	-151 dBc/Hz	-152 dBc/Hz	-149 dBc/Hz	-152 dBc/Hz	-150 dBc/Hz

Operating temperature range	Absolute pull range					
	$\pm 30 \times 10^{-6}$ Min.		$\pm 50 \times 10^{-6}$ Min.		$\pm 100 \times 10^{-6}$ Min.	
	Active High	Active Low	Active High	Active Low	Active High	Active Low
G: -40 °C ~ +85 °C	GFCT	GFCL	GGCT	GGCL	GHCT	GHCL
J: -20 °C ~ +70 °C	JFCT	JFCL	JGCT	JGCL	JHCT	JHCL
K: 0 °C ~ +70 °C	KFCT	KFCL	KGCT	KGCL	KHCT	KHCL

External dimensions

(Unit :mm)



Footprint (Recommended)

(Unit :mm)

