FTVC2 Series CMOS Outpu Ultra Low Phase Noise VCXO

Features

- MIL-PRF-55310D Class B or Class S
- Low Phase noise and low jitter
- Fundamental (No multiplication)
- Absolute pull range (APR) up to 1000ppm
- High shock vibration resistant (up to 1500g)

Applications

- PLL
- Military/Avionics/Aerospace programs
- Communication system

HOW TO ORDER

FTVC2 – A D G S / 100

A — Voltage
5=+5.0V
3=+3.3V
2=+2.5V

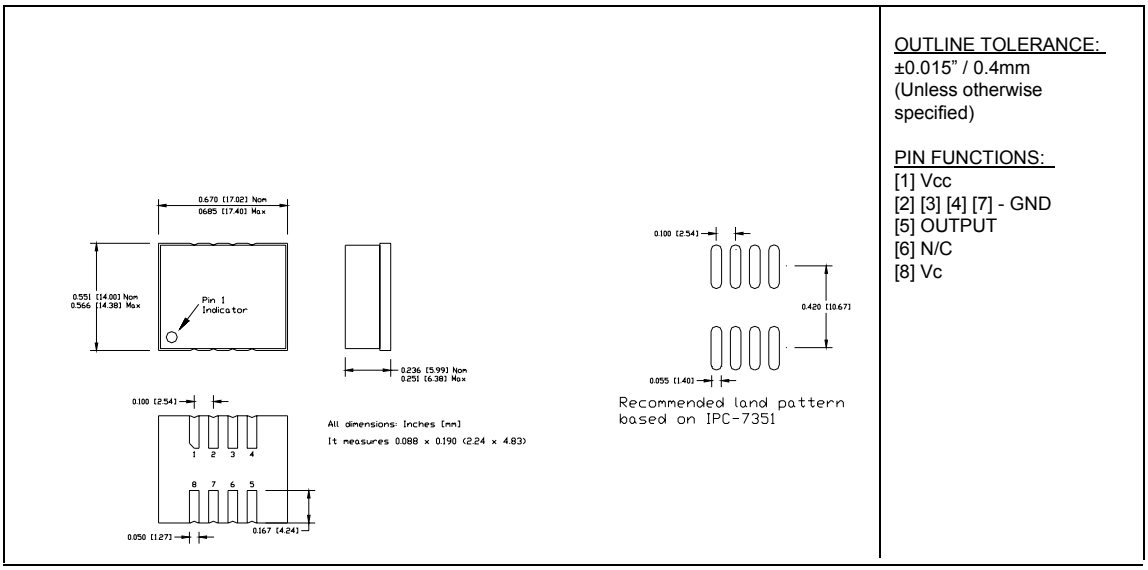
D — Temperature range
A= 0°C to +70°C
B=-20°C to +70° C
C=-20°C to +70° C
D=-40°C to +85°C

G — Absolure pull range(APR)
2 = ± 20ppm
3 = ± 30ppm
5 = ± 50ppm
10 = ± 100ppm

S — Screening Level
N = No Screening
I = Industrial Std
B = MIL-PRF-55310D Class B

100 — Frequency
MHz

Package & Dimensions :



PIN CONNECTIONS

OUTLINE TOLERANCE:
±0.015" / 0.4mm
(Unless otherwise specified)

PIN FUNCTIONS:
[1] Vcc
[2] [3] [4] [7] - GND
[5] OUTPUT
[6] N/C
[8] Vc

Electrical Parameters

Parameter		Symb	Conditions, Note		MIN	TYP	MAX	Unit
Nominal Frequency		Fo			12		250	MHz
Supply Voltage		Vcc	Code 0 Code A Code B		4.75 3.135 2.375	5.0 3.3 2.5	5.25 3.465 2.625	V
Supply current		Icc	No load, Vcc = 3.3 V 40 MHz				80	mA
Output Logic Type						CMOS		
Load						15 pF/10 KOhm		Ohm
Output Levels		Voh Vol	overall		0.9Vcc		0.1 Vcc	V
Duty Cycle (Symmetry)			At 50% Vcc		45/55	50/50	55/45	%
Rise/Fall Time		Tr/Tf	0.2Vcc to 0.8 Vcc; F< 70 MHz 70 MHz<F< 125 MHz 125MHz<F<250MHz			 3 2 1.5	 5 3 2.5	ns
Jitter	Integrated, RMS	J	Integrated from Phase Noise, 12 KHz to 20 MHz , RMS			0.1	0.15	ps
			100Hz to 80KHz,RMS				0.8	ps
			50 KHz to 80 MHz			0.2		ps
	Wavecrest characterized		Random period,			2.5		ps
			Accumul. , pk-to-pk			17		ps
			Determin.			0		ps
Sub-harmonics						None		dBc
Phase Noise		£(Δf)	125 MHz, 3.3 V APR 50 ppm or less	@ 10 Hz @100 Hz @1 KHz @10KHz @100KHz @>1MHz		-80 -110 -140 -168 -171 -172	-75 -105 -135 -166 -169 -170	dBc/Hz
Frequency Stability, usually not specified – unless necessary, APR is specified to incorporate stability		ΔF/F	Overall, including, temperature, aging 10 years, shock and vibration @Vc=Vcc/2; APR 50 ppm, or less		±20	±30		ppm
Control Voltage Range		Vc			0V		Vcc	V
Setability		Vcs	Vc to set the F at Fo; T, Vcc, load – nominal, as shipped		0.4 Vcc	0.5 Vcc	0.6 Vcc	V
Absolute Pull Range		APR	Over all conditions, see part # creation		10, 20, 32, 50, 100			ppm
Input impedance		Zin	@ Fmod < 100 KHz		50			KOhm
Modulation Bandwidth			At Vc = Vcc/2, -3dB		20			KHz

Note 1. All parameters, unless otherwise specified, are at nominal conditions, ie: T=25°C, Nominal Vcc & Nominal Load.

Operating temp. range	0°C to 70°C , -40°C to 85°C,
Mechanical Shock	Per MIL-STD-202, Method 213B, Cond. F 1000g/0.5ms
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Random Vibration	Per MIL-STD-202G;Method 214A;Condition II-D 0.1g2/Hz/30grms
Soldering Conditions	See MAX reflow profile
Hermetic Seal	Leak rate less than $1x10^{-8}$ atm.cc/s of helium (crystal only)