VFTX301

TCXO with Voltage Control Option

5x3.2mm Surface Mount, Clipped Sine Wave

Valpey Fisher Corporation
High Frequency, Low Phase Noise Timing Solutions

Features

- Frequency range of 10MHz to 40MHz
- Excellent Frequency Stability
- Low Phase noise
- Wide range of pullability options
- Low power consumption

RoHS Status

RoHS 6/6

Applications

- Portable equipment
- Telecommunications
- Data acquisition

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		10 10		26 40	MHz	5V Vcc 3V Vcc
Frequency Stability	ΔF/F	Vs. Operating Temperature ref to +25°C A: 0°C to +50°C G: -40°C to +85°C			±0.5 ±2.5	ppm	Select max. stability. See "How to Order"
		Vs. Supply Voltage (+/-10%) Vs. Aging / Year		± 0.2 ± 1		ppm ppm	
Operating Temperature Range	T		0° -40°		+50° +85°	°C	*Order Code A* *Order Code G* See "How to Order"
Output			0.8			Vp-p	*External 150 pF DC blocking capacitor required*
Load		10KΩ//10pF					
Supply Voltage	Vcc		4.75 2.8	5.00 3.0	5.25 3.3	V	*Order Code D* *Order Code F*
Voltage Control	Vc		0.5 0.5		2.5 2.5	V	5.0V Vcc 3.0V Vcc
Input Impedance			500K			Ω	
Pullability		VCTCXO Version	±5		±12	ppm	See "How to Order"
Deviation slope		*Monotonic positive*					
Initial Tolerance		TCXO Version			±2.0	ppm	@ +25°C,1hour after reflow

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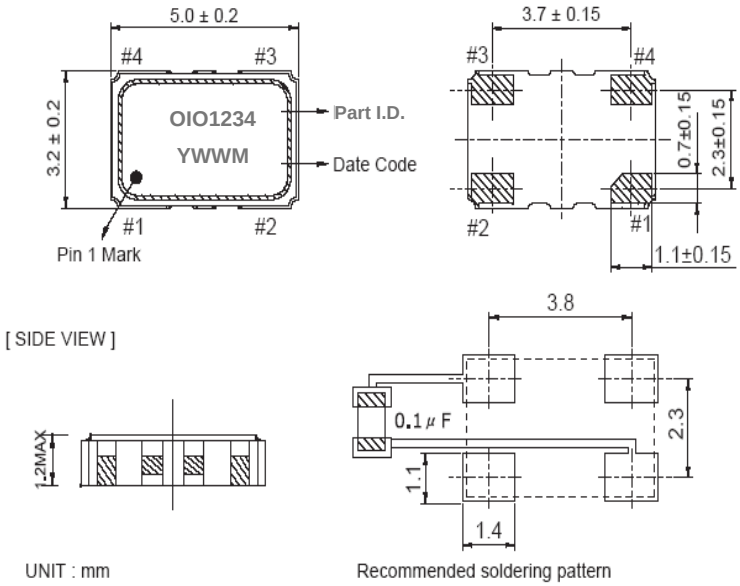
Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Linearity			-10		+10	%	
Modulation BW			3			KHz	3dB BW
SSB Phase Noise		@100 Hz @ 1 KHz @10 KHz		-115 -135 -148		dBc/Hz	Fo=13MHz
Start up					2	ms	

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	Vcc		-0.5		6.0	V	
Storage Temperature	Ts		-55°		+125°	°C	

Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	230°C for 60s max
Hermetic Seal	Leak rate less than $5x10^{-8}$ atm.cc/s of helium



PAD	Function
1	Vc (VCTCXO) or N/C (TCXO)
2	GND
3	Output
4	Vcc

NOTE: External 150 pF series dc blocking capacitor is required at output (pad 3)

How to Order

Stability vs. Temp

Code	Specification
L	±0.5ppm
K	±1.0ppm
J	±1.5ppm
H	±2.0ppm
G	±2.5ppm

Temperature Range

Code	Specification
A	0°C to 50°C
C	-10°C to +60°C
D	-20°C to 70°C
F	-30°C to +85°C
G	-40°C to 85°C

Vcc

Code	Specification
F	3.0V
D	5.0V

Pullability

Code	Specification	Type
T	N/A	TCXO
A	±5ppm	VCTCXO
B	±8ppm	VCTCXO
C	±10ppm	VCTCXO
D	±12ppm	VCTCXO

***Freq. Stability Vs Temp Availability (for 10MHz – 26MHz frequency models)**

Temp (°C)	L: 0.5ppm	K: 1.0ppm	J: 1.5ppm	H: 2.0ppm	G: 2.5ppm
0°C to +50°C	♦	♦	♦	♦	♦
-10°C to +60°C	♦	♦	♦	♦	♦
-20°C to +70°C	o	♦	♦	♦	♦
-30°C to +85°C	x	o	♦	♦	♦
-40°C to +85°C	x	o	♦	♦	♦

♦: Available
o: Availability dependent on frequency - contact factory
x: Not available

***Note: For 26.000MHz to 40.000MHz frequencies consult factory for availability**