Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077
TEL: 281-870-8822EMAIL:Sales@DynamicEngineers.com

ETOCXO2525C
Utmost OCXO Solutions

Features and Benefits

Temperature stability to 10 ppb at -40°C to +125°C
Low aging up to ±0.3ppb/day, 30 ppb/year
Low noise level up to -170dBc/Hz@100kHz
Frequency range from 8 to 30 MHz
Allan Variance up to ±5x10^{-12}/s

Typical Applications

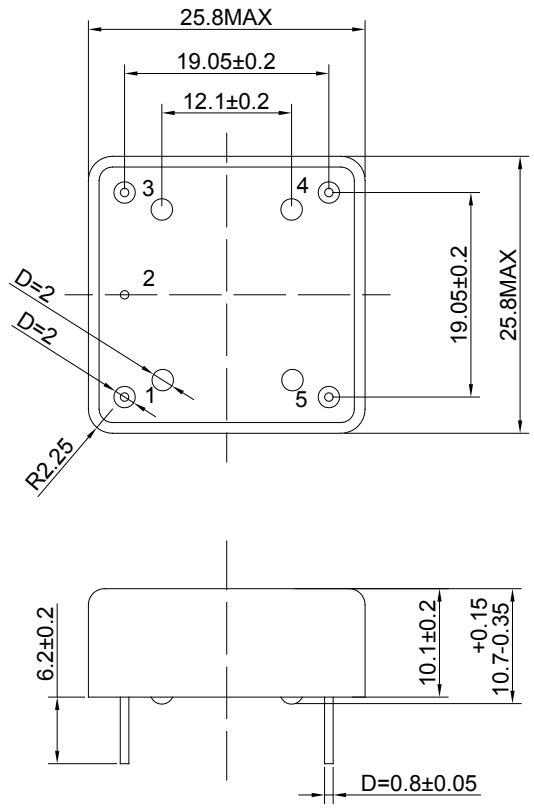
Stratum 3 Clock Systems
Microwave Communications
Cellular Base Stations
Radar reference
Instrumentation

Description

A new series of high-temperature high stability OCXO with low phase noise for rigorous environment.

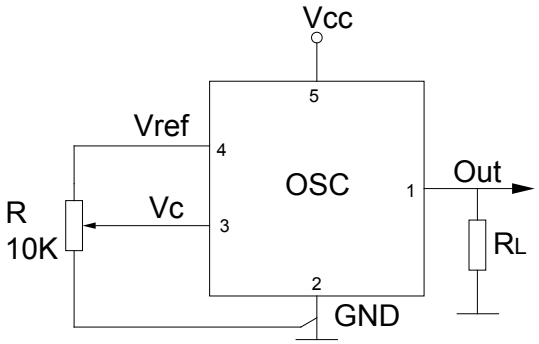
Mechanical Drawing & Pin Connections

Drawing No:MD140078-1



Pin	Signal
1	RF OUT
2	GND
3	Electrical tuning
4	Reference voltage
5	+V Supply

Unit : mm
1mm=0.0394inch



Packaging available: 25x25x10.7(12.4, 13.4)mm

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Specifications

General Specifications								
Parameter		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max		
Frequency Range		F_0		8		30	MHz	Fundamental
RF Output								
HCMOS (TTL) option	**Load**			10		15	kOhm pF	
	H-level voltage	V_H		3.8			V	
	L-level voltage	V_L				0.4	V	
	Duty Cycle			45		55	%	
	Rise / Fall Time					10	ns	For 10 MHz operational frequency
Sine-wave option	**Level**	L		+6	+8	+10	dBm	
	Load	R_L			50		Ohm	
	Harmonics level					-25	dBc	
Sub-harmonics level				None				
Frequency Control*								
Control Voltage Range		V_c	V_{cc}=5V V_{cc}=3.3V	0 0		4.2 2.8	V	Positive tuning slope (standard option)
Tuning Range				±0.35	±1.00		ppm	
Reference voltage		V_{ref}	V_{cc}=5V V_{cc}=3.3V	4.1 2.7	4.2 2.8	4.3 2.9	V	
Frequency Stability								
Vs. temperature			-40°C to +125°C, ref 25°C	±10			ppb	See chart below
Vs. supply voltage			Ref V_{cc} typ.		±1		ppb	
Vs. acceleration			Worst direction	±0.5		±1	ppb/G	
Power Supply								
Voltage		V_{CC}		4.75	5.0	5.25	V	3.3V supply available
Power Consumption			Warm-up state Steady state, +25°C		3.2 1.3	3.5 1.5	W W	
Warm-up time		t_{up}	to Δf/f = 1e-7 at +25°C			180	sec	Ref to frequency after 30 min
SSB Phase Noise			1 Hz	-110	-100		dBc/Hz	For 10 MHz operational frequency
			10 Hz	-135	-125			
			100 Hz	-155	-145			
			1 kHz	-163	-155			
			10 kHz	-170	-168			
			100 kHz	-170	-170			
Allan variance			1s	5			10^{-12}	
Aging	Per day		After 30 days of operation	0.3	0.5		ppb	See chart below
	First year			30	50		ppb	
	For 20 years				0.5		Ppm	

Environmental, mechanical conditions.	
Operating temperature range	See chart below
Storage temperature range	-60°C to +125°C
Humidity	Hermetically sealed
Mechanical Shock	Per MIL-STD-202, 30G half sine pulse, 11ms (500G 1ms – optional)
Vibration	Per MIL-STD-202, 10G swept sine 10 to 2000Hz
Soldering Conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)

* No frequency control option – on customer requirement

Ordering Code

ETOCXO2525C	-	1	3	4	2	1	-	10 MHz
		1	2	3	4	5		

For example, ETOCXO2525C-13421-10MHz denotes the OCXO has the following specifications:

Temperature Range	-40°C to +125°C
Stability Over Temperature	±30ppb
Aging per day / year	1.5ppb / 0.15ppm
Supply Voltage	3.3V ±10%
Output	HCMOS
Frequency	10MHz

1	**Temperature Range**
Code	Specification
1	-40°C..+125°C

2	**Stability Over Temperature**	
Code	Specification	Available temperature range code for 10MHz
1	±10ppb	1
2	±20ppb	1
3	±30ppb	1
4	±50ppb	1
5	±100ppb	1

3	**Aging per day/year, ppb/ppm**
Code	Specification
1	0.3/0.03
2	0.5/0.05
3	1.0/0.10
4	1.5/0.15
5	2.0/0.20
6	3.0/0.30
7	5.0/0.50

4	**Supply voltage**
Code	Specification
1	+5V ±5%
2	+3.3V ±5%

5	**Output**
Code	Specification
1	HCMOS/TTL
2	Sine wave

*for 10 MHz operational frequency

Deviations of the parameters may be possible on Customer's requirements
Please contact Dynamic Engineers Inc. for further details.