



Features and Benefits

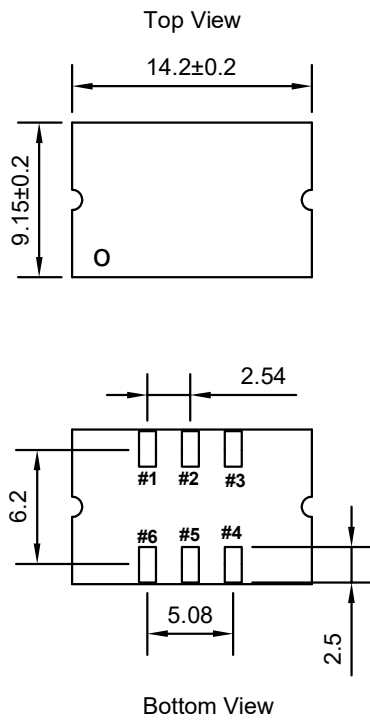
- Ultra-Stable
- Low Phase Noise
- Small Packaging(9.2x14.2mm)

Typical Applications

- Base Stations
- Instrumentations
- Synthesizer
- SDH/SONET

Mechanical Drawing & Pin Connections

Drawing No: MD20004, -1



PIN Function

#1	Control Voltage
#2	N.C.
#3	GND
#4	RF Output
#5	N.C.
#6	Supply Voltage

unit in mm
1mm = 0.0394 inches



Specifications

Specification	Conditon	3.3V		5V		Unit
		Min.	Max.	Min.	Max.	
Frequency Range		10	120	10	120	MHz
Nominal Frequency		50,100				MHz
Initial Frequency Tolerance	At shipment, nominal EFC, +25°C	±0.3 min; ±0.5 typical; ±1 max				ppm
Frequency Stability	-20°C..+70°C	±0.1	±1	±0.1	±1	ppm
	-40°C..+70°C	±0.1	±1	±0.1	±1	ppm
	-40°C..+85°C	±0.2	±1	±0.2	±1	ppm
Vs Supply Voltage	±5% Change		+0.2		+0.2	ppm
Vs Load	±5% Change		+0.2		+0.2	ppm
Vs Aging	1 st year		±1.0		±1.0	ppm
Transition Time (10% ~ 90%)(CMOS)	Rise Time	-	6	-	6	nSec
	Fall Time	-	6	-	6	
Supply Current(CMOS)		-	45	-	45	mA
Output Level(CMOS)	Output High	2.4	-	2.4	-	V
	Output Low	-	0.4	-	0.4	
	Duty Cycle	45	55	45	55	
Load(CMOS)		15		15		pF
Supply Current(sine wave)		-	45	-	45	mA
Load(Sine wave)		50				ohm
Output Level(sine wave)		7	-	7	-	dBm
Harmonics(sine wave)		-	-30	-	-30	dBc
Spurious(sine wave)		-	-70	-	-70	dBc
Control Voltage Range		0--VCC				V
Control Center Voltage		1.5 ± 1.0				V
Pulling Range		±5	-	±5	-	ppm
Vc Input Impedance		100	-	100	-	kohm
Jitter (E5052B) @100MHz	12KHz~5MHz	20	40	20	40	fs
Phase Noise@100MHz	10Hz	-77typ; -75max				dBc/Hz
	100Hz	-110typ; -110max				
	1KHz	-142typ; -140max				
	10KHz	-158typ; -155max				
	100KHz	-163typ; -158max				
Tuning Slope		Positive				
Linearity		10				%
Operating Temperature Range		-40°C..+85°C				
Storage Temperature Range		-55°C..+105°C				
Maximum Ratings						
Parameter	Symbol	Rating				
Supply Voltage	Vdd	-0.5V / 6V				
Control Voltage	Vcon	0V / 3V				
ESD, HBM/CDM/MM		4KV/ 2KV/ 200V				



Reliability	
Parameter	Condition
Temperature Stress Test	IEC60068, GJB360B
Mechanical Stress Test	IEC60068, GJB360B
EMC Test (ESD)	IEC61000, JESD22
Solder Ability	EIA/JESD22-B102-C
Contact Pads	Gold over Nickel
RoHS	RHOS Directive 2011/65/EU Annex II Recasting 2002/95/EC

Ordering Information

TCXO914CELN	-	xx MHz	-	01	02	03	04	05	06
Group				Code					

For example, TCXO914CELN-10MHz-11111 denotes the TCXO has the following specifications:

Temperature Range	-20°C to +70°C
Stability Over Temperature	±0.1ppm
Tuning	No tuning
Supply Voltage	5.0V
Output	CMOS
Frequency	10MHz
Phase Noise	-130dBc/Hz@1kHz

01	Temperature Range
Code	Specification
1	-20°C..+70°C
2	-40°C..+70°C
3	-40°C..+85°C

02	Stability Over Temperature
Code	Specification
1	±0.1ppm
2	±0.28ppm
3	±0.5ppm
4	±1.0ppm
5	±2.0ppm

03	Supply voltage
Code	Specification
1	+5.0V
2	+3.3V

04	Output
Code	Specification
1	CMOS
2	Sine wave

05	Phase Noise
Code	Specification
1	-130dBc/Hz@1kHz
2	-135dBc/Hz@1kHz
3	-140dBc/Hz@1kHz
4	-145dBc/Hz@1kHz

06	Output
Code	Specification
1	No Tuning
2	±5ppm