TCXO3225R-2.5V-LVCMOS-xMHz-y
LVCMOS programmable VCTCXO

Features and Benefits

Low current consumption (24mA for LVCMOS 50MHz at 2.5V)
Integrated phase jitter performance of 1.0pS RMS.
Any Frequency to six decimal places available from 10 to 245 MHz
Example: 223.534676 MHz is an available frequency

Typical Applications

Mobile Radio
Communication Equipment

Mechanical Drawing & Pin Connections

Drawing No:MD160046-1
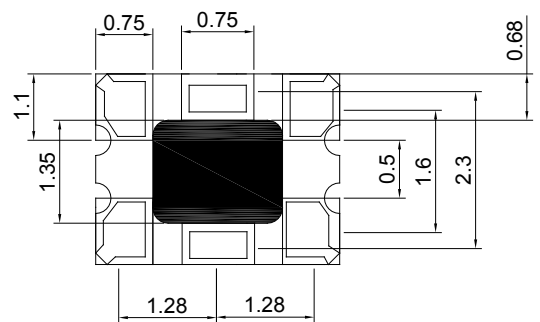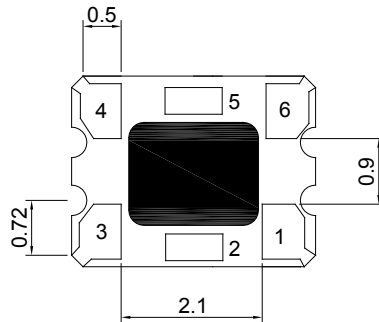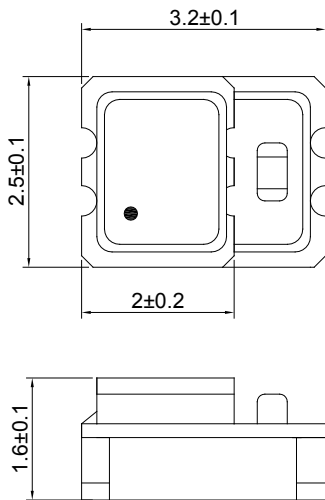
Pin Connection

Pin	Funtion
1	Voltage Control
2	Output Enable
3	GND
4	Differential
5	Complimentary
6	Vcc

Unit : mm
1mm=0.0394inch

Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F_0		10.000000		245.000000	MHz	
RF Output							
Output Wave Form				LVCMOS			
Load				15		pF	
Output Logic "High", "1"	V_{DD}			90%			
Output Logic "Low", "0"	V_{DD}			10%			
Duty Cycle				50%			±5%
Rise / Fall Time		Tr / TT 10% ↔ 90% waveform		1.5	3.0	nS	
Start-up Time					5	msec	
Power Supply							
Voltage	V_{DD}		2.375	2.500	2.625	V	
Power Consumption	V_{DD} = +2.5V	Typical and over the operating temperature		24		mA	50 MHz
				28			125 MHz
				30			200 MHz
Current with output disabled				18		mA	
Frequency Stability							
VS. Tolerance		@+25°C ±2°C			±1.0	ppm	At shipment
VS. Temperature		Ref to +25°C		±2.5		ppm	Over -30°C to 85°C (default)
				±5.0		ppm	Over -40°C to 85°C (available)
VS ±5% change in supply voltage					±0.2	ppm	
VS. ±10% change in load					±0.2	ppm	
Aging		Per year at +25°C			±1.0	ppm	
Reflow		1 reflow and measured 24 hoursafterwards			±1.0	ppm	

Phase Noise

Integrated Phase Jitter	1.0 pS (12 KHz to 20 MHz) <400 fS (1.875 KHz to 20 MHz)					
	Offset	**77.76**	**156.25**	**212.50**	**622.08**	**1000.00**	**1250.00**

Phase noise dBc / Hz (typical)	Offset	77.76	156.25	212.50	622.08	1000.00	1250.00
	10 Hz	-62	-65	-61	-51	-40	-43
	100 Hz	-100	-92	-90	-79	-73	-75
	1 KHz	-116	-108	-106	-97	-91	-89
	10 KHz	-122	-114	-110	-102	-99	-95
	100 KHz	-124	-117	-112	-103	-99	-96
	1 MHz	-144	-139	-133	-125	-121	-117
	10 MHz	-152	-147	-142	-134	-129	-127
Phase Jitter (12 KHz – 20 MHz, RMS) unit : pS		0.9	0.9	1.2	1.1	1.1	1.2

Environmental Conditions

Parameter	Reference Std.
Operating temperature range	-40°C to +85°C
Storage temperature range	-55°C to +150°C

Control Voltage Function on Pad 1		**Output Enable Function on Pad 2**	
Control Voltage Center and Range	+1.5V ±1.0V for V_{DD} = 2.5V	OE Control on Pad 2	0.7% of V_{DD} (min.) or no connection to enable output. LVCMOS level
Frequency Pulling Range	±8 ppm min.		0.3% of V_{DD} (max.) to disable output (high impedance) LVCMOS level
Linearity	±1% typical, ±10% max.	Output Enable Time / Disable Time	200 nS. Max. / 50 nS. Max
Transfer Function	Positive Transfer		
Absolute Voltage	4.0V max.		
Input Impedance	770KΩ typical		
Harmonics	-5.0 dBc max.		

Ordering Options

Part Numbers	Stability	Operating Temperature
TCXO-3225R-2.5V-LVCMOS-xMHz-1	< ±5.0 ppm	-40°C to +85°C
TCXO-3225R-2.5V-LVCMOS-xMHz-2	< ±2.5 ppm	-30°C to +85°C
TCXO-3225R-2.5V-LVCMOS-xMHz-3	Custom stability	Custom temperature range