



**Features and Benefits**

- 30-300MHz Frequency Range
- 3.3V,5V,12V Supply voltage
- HCMOS, TTL,Sinewave, Output waveform
- Various Temperature Stability Available
- 35.4x26.7x12.1mm Size
- 135dBc/Hz @1KHz phase noise value

**Typical Applications**

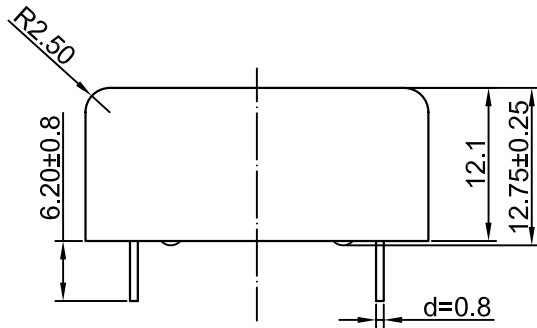
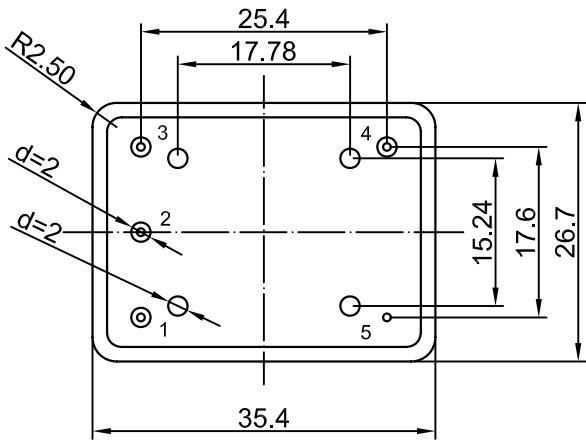
- Cellular Base Stations
- Instrumentation
- Microwave Applications
- Stratum 3E clock systems
- Radar reference

**Description**

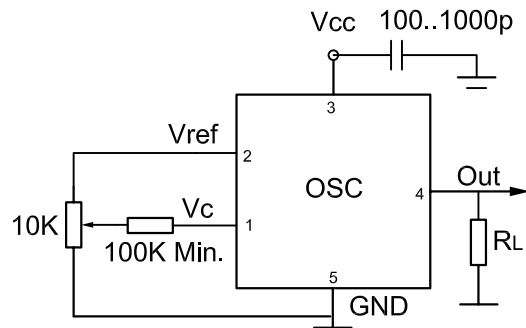
The OCXO3629C\_series operate in wide frequency range from 30 to 300 MHz with usage of internal frequency multiplication by 3 or 5. Besides, the internal multiplication of frequency enables to the oscillators improvement, the module concept of the OCXOs design allowed realization of same performance in a variety of small packages on customer choice under various models.

**Mechanical Drawing & Pin Connections**

Drawing No: MD1(\$\$+- -1



10.7mm available



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

Unit in mm  
 1mm = 0.0394 inches



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>nom</sub>		30		300	MHz	Frequency multiplication on 3 and 5
<b>RF Output</b>							
Signal Waveform			HCMOS(TTL) option				
Load	R <sub>L</sub>		10kohm//5pf				100MHz
H-Level Voltage	V <sub>H</sub>	V <sub>cc</sub> =5V,12V	3.8			V	
		V <sub>cc</sub> =3.3V	2.4			V	V
L- Level Voltage	V <sub>L</sub>				0.4	V	
Duty Cycle			45		55	%	
Rise/Fall time					3	ns	100MHz
Signal Waveform			Sinewave option				
Level		V <sub>cc</sub> =5V,12V	+7			dBm	
		V <sub>cc</sub> =3.3V	+4				
Load				50		ohm	
Harmonics					-30	dBc	
Sub-Harmonics					-40	dBc	100MHz
<b>Power Supply</b>							
Reference Voltage	V <sub>ref</sub>	V <sub>cc</sub> =5V,12V	4.0		4.3	V	
		V <sub>cc</sub> =3.3V	2.5		3.1	V	
Supply Voltage	V <sub>cc</sub>		11.4	12	12.6	V	
			4.75	5.0	5.25	V	
			3.15	3.3	3.45	V	
Warm-up Time	T <sub>up</sub>	at +25°C to Δf/f=1e-7			180	sec	ref. to freq. after 15 min. of operation
Power Consumption		Steady state, +25°C			1200	mW	100MHz, -40°C - +85°C
		Warm-up			3500	mW	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)		Compliance with 10 years of aging	±0.5			ppm	
EFC voltage	V <sub>c</sub>	V <sub>cc</sub> =5V,12V	0		4.3	V	
		V <sub>cc</sub> =3.3V	0		3.1	V	
EFC Slope			positive				
<b>Frequency Stability</b>							
Versus Operating Temperature Range		ref. 25°C, air flow 0.5 m/s max.	±3.0			ppb	See ordering information
Initial Tolerance	(f-f <sub>0</sub> )/f <sub>0</sub>	+25°C, V <sub>c</sub> =0.5*V <sub>ref</sub>	±0.01	±0.1		ppm	
Versus supply voltage	V <sub>s</sub>	ref VCC typ		±0.2		ppb	
G – sensitivity		worst direction, 0 – 1kHz vibration BW (for 0 – 2kHz BW consult the factory)	±0.5	±1.0		ppb/G	
Retrace		24h work after 24h off			±10	ppb	100MHz
Aging Per Day		after 30 days of operation	±0.5			ppb	100MHz see ordering information
Aging 1 <sup>st</sup> Year			±0.05			ppm	
Allan Variance		1s	5	20		e-12	100MHz
SSB Phase noise (Typical phase noise is default option. For different phase noise consult the factory)		10Hz	-110	-100		dBc/Hz	100MHz Frequency multiplication on 5, V <sub>cc</sub> =5V, 12V
		100Hz	-130	-121		dBc/Hz	
		1kHz	-145	-135		dBc/Hz	
		10kHz	-155	-145		dBc/Hz	
		100kHz	-155	-150		dBc/Hz	



Environmental, Mechanical Conditions	
Airflow velocity	0.5 m/s maximum
Operating temperature range	See ordering information
Storage temperature range	-60°C to 85°C
Mechanical shock	Per MIL-STD-202, 30G half sine pulse, 11ms (500G, 1ms — optionally)
Soldering conditions	Hand solder only – not reflow compatible. 260°C 10s (on pins)
Humidity	Hermetically sealed
Power Voltage	-0.5V to Vcc+20%
Control Voltage	-0.5V to 6V
Vibration	Per MIL-STD-202, 10G swept sine 0 to 2000Hz
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage

**Ordering Information**

OCXO3629C	-	100MHz	-	x	x	x	x	x
Group				01	02	03	04	05

For example, DOCXO3629C-100MHz-1-1-2-2-2 denotes the OCXO has the following specifications:

Temperature Range: 0°C to +50°C  
 Stability Over Temperature: ±2ppb  
 Aging per day / per year: 0.2ppb/0.02ppm  
 Supply Voltage: 5V  
 Output: Sinewave

01	Temperature Range
Code	Specification
1	0°C to +50°C
2	-10°C to +60°C
3	0°C to +70°C
4	-20°C to +70°C
5	-30°C to +70°C
6	-40°C to +85°C
7	-55°C to +85°C
8	-60°C to +85°C

02		Frequency Stability	
Code	Spec	Temperature range code available for 100MHz 5V	Temperature range code available for 300MHz 5V
1	±2ppb	1,2	--
2	±3ppb	1,2,3,4,5,6	1,2
3	±5ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6
4	±10ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8
5	±20ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8
6	±30ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8
7	±50ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8

03		Aging per day/per year,ppb/ppm
Code	Specification	
1	0.1/0.015	For frequency range of 30-150 MHz
2	0.2/0.02	
3	0.3/0.03	
4	0.5/0.05	
5	1/0.1	
6	1.5/0.15	For frequency range of 150-300 MHz
7	2/0.2	
8	3/0.3	
9	5/0.5	

04		Supply Voltage
Code	Specification	
1	3.3V±5%	
2	5V±5%	
3	12V±5%	

05		Output
Code	Specification	
1	HCMOS/TTL	
2	Sinewave	