Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

OCXO3313C-20.48MHz-685111
20.48MHz High stability low noise OCXO

Features and Benefits

Frequency range: 20.48MHz
Supply voltage: 3.3V
Steady current: 50mA Max
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±100ppb
Aging: ±0.1ppm per year
Operating temperature: -40°C to +85°C
Size: 16x15.3x9.5mm

Typical Applications

Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

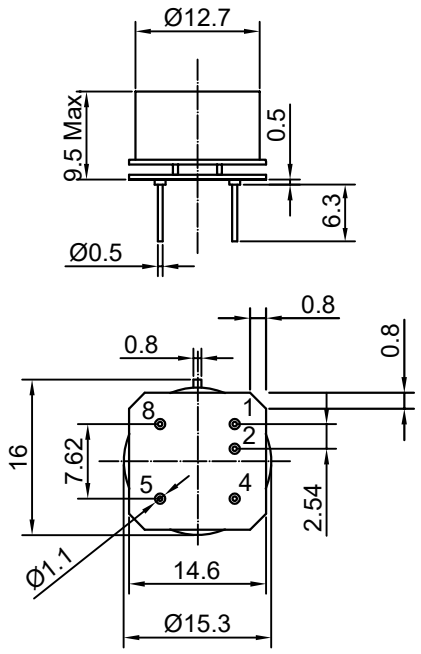
Description

OCXO3313C-20.48MHz-685111 offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

Mechanical Drawing & Pin Connections

Drawing No: MD170001-3

Physical dimensions



Pin	Signal
1	Electrical tuning
2	Reference voltage
4	GND
5	RF Out
8	+V Supply

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
Operational Frequency	f_0			20.48		MHz	
RF Output							
Signal Waveform				HCMOS			
High Voltage			2.4			V	
Low Voltage					0.4	V	
Duty Cycle			45	50	55	%	
Load	R_L		10k			ohm	
Load	C_L				10	pF	
Power Supply							
Reference Voltage	V_{ref}		2.7	2.8	2.9	V	
Output Resistance of V_{ref}				91		ohm	
Supply Voltage	V_{cc}		3.15	3.3	3.45	V	
Warm-up current		V_{CC}=3.3V	140		240	mA	
Continuous current		at +25°C, V_{CC}=3.3V		40	50	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15min		60	90	sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	V_c=0 V		-1	-0.5	ppm	Note
	$(f-f)/f$	$V_c=V_{c0}$		0		ppm	
	$(f_H-f)/f$	$V_c=V_{ref}$	0.5	1		ppm	Note
EFC voltage	V_c		0		2.8	V	
Input BW		-3dB Level		160		Hz	
Input impedance				11kohm//5pF			
Slope				positive			
Preset control voltage	V_{C0}	disconnected V_c pin	1.3	1.4	1.5	V	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±100	ppb	Note
Initial Tolerance @+25°C	$(f-f_0)/f_0$	V_C= V_{C0}	-0.1		+0.1	ppm	Note
Versus Supply Voltage		ref V_{CC} typ.		±3	±5	ppb	
Versus Load		5% change			±5	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		1Hz		-90		dBc/Hz	
		10Hz		-120		dBc/Hz	
		100Hz		-150		dBc/Hz	
		1KHz		-160		dBc/Hz	
		10KHz		-162		dBc/Hz	
		100KHz		-163		dBc/Hz	
Aging Per Day		After 30 days of operation			±1	ppb	
Aging 1st Year					±0.1	ppm	

Maximum ratings, environmental, mechanical conditions	
Operating temperature range	-40°C to +85°C
Storage temperature range	-60°C to +85°C
Power voltage	-0.5 to 4.0 V
Control voltage	-1.0 to 6.0 V
Air flow velocity	0.5 m/s maximum
Humidity	Non-condensing 95%
Mechanical shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 10G to 2000Hz
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)
Washing conditions	Washing with water or alcohol-based detergent allowed only with final enough drying stage

Note: Included in the test data