

## Low Phase Noise UHF OCXO in 36x27 mm “Europack”



36.1 x 27.2 x 19 mm  
Datasheet #0907B

### Features

- UHF
- Ultra Low Phase Noise
- Low Spurious
- +12 dBm Sine Wave output

### Applications

- Instrumentation
- Telecommunication Systems
- Radar
- GPS
- COTS/Dual use

### Absolute Maximum Ratings

Parameters	Symbol	Condition	Min	Typ	Max	Unit	Notes
Input Break Down Voltage	V <sub>cc</sub>	5 V supply	-0.5		5.5	V	
Storage temper.	T <sub>s</sub>		-40		85	°C	
Control Voltage	V <sub>c</sub>		-1		5.5	V	

### Electrical

Parameters	Symbol	Condition	Min	Typ	Max	Unit	Notes
Frequency	F		500	1000	1300	MHz	
Frequency stability	$\Delta F/F$	vs. Temp.		±50		ppb	See chart below
		vs. Supply		2	3	ppb/10%V <sub>cc</sub>	
Aging		per day first year 10 years		5E-9 3E-7			after 30 days
Allan Deviation		.1s to 10s		1E-10			
SSB Phase Noise	L <sub>φ</sub>	10 Hz		-75	-70	dBc/Hz	1 GHz “P” grade
		100 Hz		-105	-100		
		1 KHz		-130	-128		
		10 KHz		-145	-140		
		100 KHz		-150	-147		
		10 Hz		-85	-82	dBc/Hz	1 GHz “E” grade, available with slope option “L” only. May require package height .75” (19 mm)
		100 Hz		-115	-112		
		1 KHz		-140	-138		
		10 KHz		-158	-155		
100 KHz		-160	-158				
10 Hz		-80		dBc/Hz	1.28 GHz “E” grade		
100 Hz		-110					
1 KHz		-138					
10 KHz		-155					
100 KHz		-160					
Retrace		After 30 minutes		±100		ppb	24 Hours off 1*
G-sensitivity		Worst direction			±0.5	ppb/G	
Input Voltage	V <sub>cc</sub>		4.75	5.0	5.25	V	
Power consumption, Still air	P	steady state, 25°C start-up @-30°C		1.3	1.50	W	
				2.5			

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### Electrical (cont.)

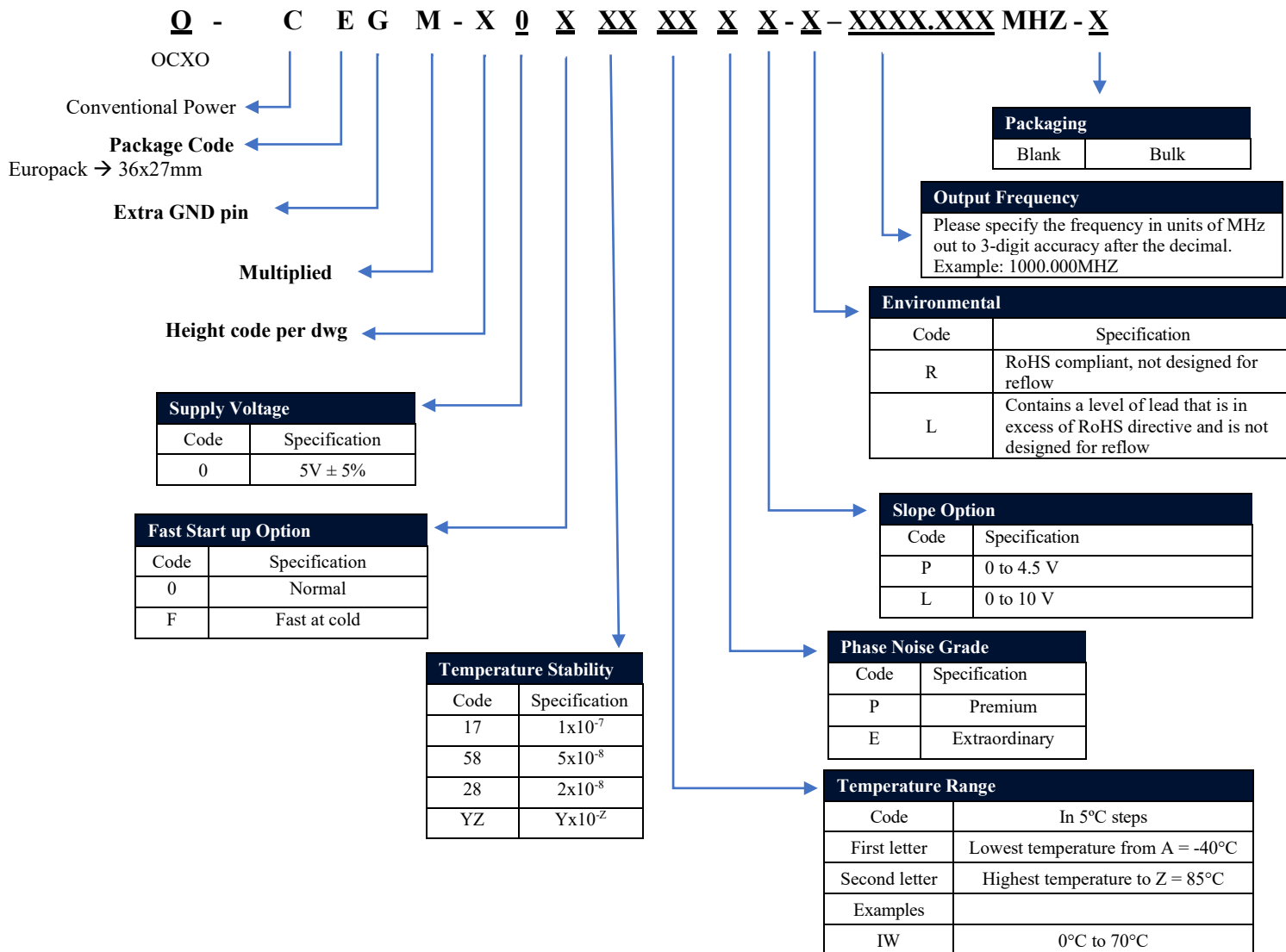
Parameters	Symbol	Condition	Min	Typ	Max	Unit	Notes
Spectral Purity		Sub-harmonics Spurious Harmonics		-50	-80 -15	dBc	Please contact factory for actual sub-harmonic's frequencies. It may vary by requirements
Load	Internally AC-coupled 50 Ohm						
Warm-up time	$\tau$	to 0.1 ppm accuracy		3	5	minutes	
Output Waveform	Sine-wave						
Output Power			+9	+12		dBm	
Control voltage	Vc		0 0		4.5 10.0	V	Option "P" Option "L"
Input impedance	Zin	At Vc pin	10			KOhm	
Modulation bandwidth	Fm		DC		1	KHz	
Pull range		from nominal F		$\pm 3.0$		ppm	
Absolute Pull Range (If used in PLL shows what reference instability it can tolerate to lock over life)	APR	Over all conditions, Including Temperature, Vcc, Load Variations and 10 years aging	$\pm 0.5$			ppm	
Deviation slope		Monotonic, positive		1.5 0.8		ppm/V	Option "P" Option "L"
Setability	Vc0	@25°C, Fnom.		2.25 $\pm$ 0.5 5 $\pm$ 0.5		V	Option "P" Option "L"
Reference Voltage	Vref			4.5		V	
Fast Start up Option		Option F			400	mseconds	At -40°C 2*

### Environmental and Mechanical

Parameter	Description
Operating temp. range	-40 to 75°C; operable -40 to 85°C. See table below to specify
Storage temperature range	-50 to 90°C
Mechanical shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 2000 Hz
Soldering Conditions	260°C for 10s Max leads only



## Creating a Part Number



Not all combinations are available. Consult Factory.

### Temperature Code Table

Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C
A	-40	F	-15	K	10	P	35	U	60	Z	85
B	-35	G	-10	L	15	Q	40	V	65		
C	-30	H	-5	M	20	R	45	W	70		
D	-25	I	0	N	25	S	50	X	75		
E	-20	J	5	O	30	T	55	Y	80		

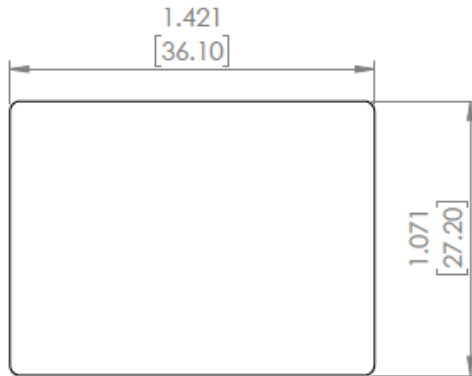
Notes:

1\* Longer storage time, especially at low temperatures, may affect both retrace and setability parameters. It may require few days on power for re-stabilization.

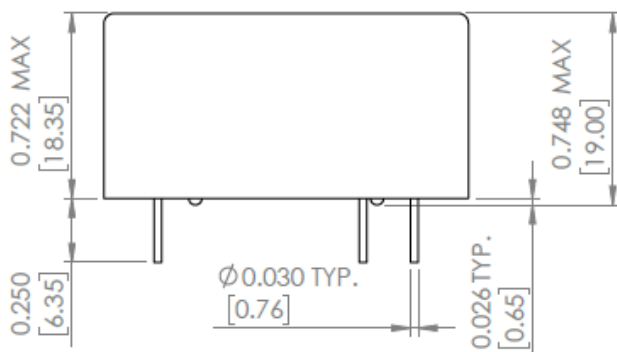
2\* Preliminary.



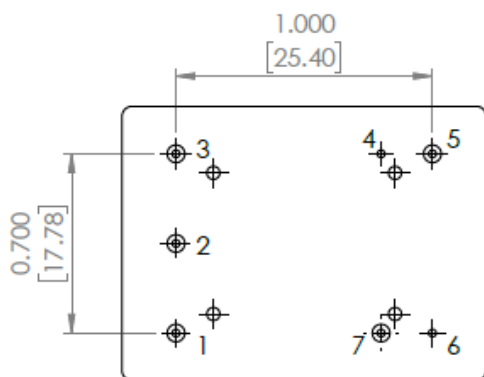
## Mechanical Dimensions



**TOP VIEW**



**FRONT VIEW**



**BOTTOM VIEW**

H Code #	Height, inches (mm) TYP
6	0.63 (16mm)
7	0.75 (19mm)

Pin #	Function
1	V <sub>c</sub>
2	V <sub>ref</sub> (slope option P) N/C (slope option L)
3	V <sub>cc</sub>
4	GND
5	RF OUT
6	GND
7	N/C or not present

Dimensions: inches [mm]