

Specification
MXO37H Series - High Frequency Vacuum-Sealed Miniature OCXOs

OCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	f_0		30		120	MHz	
RF output							
HCMOS/TTL compatible option	Load		10		5	kOhm pF	for 100MHz operational freq.
	H - level voltage	V_H	$V_{cc}=5V$ $V_{cc}=3.3V$	3.9 2.4		V	
	L - level voltage	V_L			0.4	V	
	Rise & Fall time				2.5	ns	
	Duty cycle			45		55	
Sine-wave option	Level	L	$V_{cc}=5V$	+5	+7	+11	dBm
	Load	R_L			50		Ohm
	Harmonics					-25	dBc
Subharmonics				none			dBc
Power supply							
Voltage	V_{cc}		4.75	5.0	5.25	V	3.3V optional
Power consumption		Warm-up state Steady state, +25°C		0.7 0.150	1.0 0.230	W	
Warm-up time	t_{up}	to $\Delta f/f=1e-7$, at +25°C			90	sec.	ref. to frequency after 30 min.
Frequency control*							
Control voltage range	V_c	$V_{cc}=5V$ $V_{cc}=3.3V$	0 0		4.3 2.8	V	Positive tuning slope - standard option
Tuning range			± 1			ppm	for 100MHz operational freq.
Reference voltage	V_{ref}	$V_{cc}=5V$ $V_{cc}=3.3V$	4.10 2.70	4.30 2.80	4.40 2.90	V	
Frequency stability							
vs. temperature		-30°C to +70°C, ref 25°C		± 50		ppb	See chart below
vs. supply voltage		ref V_{cc} typ.		± 5		ppb	
vs. acceleration		Worst direction			± 1	ppb/G	
SSB Phase noise		10 Hz		-95		dBc/Hz	for 100MHz operational freq.
		100 Hz		-125			
		1 kHz		-153			
		10 kHz		-165			
		100 kHz		-168			
Allan variance		1 s		30		e-12	
Aging	per day	after 30 days of operation			± 3	ppb	Standard option S (see chart below)
	first year				± 0.3	ppm	
Environmental, mechanical conditions.							
Operating temperature range		-30°C to +70°C Standard. Other options - see chart below.					
Storage temperature range		-60°C to +90°C					
Humidity		Non-condensing 95%					
Mechanical shock		Per MIL-STD-202, 30G half sine pulse, 11ms					
Vibration		Per MIL-STD-202, 10G swept sine 10 to 2000 Hz					
Soldering conditions		260°C 10s					

* No frequency control option – on customer requirement

Ordering code

MXO37H	/14	-	E	17	S	5	S	-	100 MHz
1	2		3	4	5	6			

1	Packaging type
Code	Case
/14	14 DIP
/14S	14 DIP SMD

2	Temperature range
Code	Specification
A	0°C..50°C
B	-10°C..60°C
C	0°C..70°C
D	-20°C..70°C
E	-30°C..70°C
F	-40°C..80°C

3	Stability over temperature		
Code	Specification	Temperature range code available	
XZ	$\pm Xe-Z$		
18	$\pm 1e-8$	A	
28	$\pm 2e-8$	A...B	
58	$\pm 5e-8$	A...E	
17	$\pm 1e-7$	A...F	

4	Aging		
Code	Requirements	Per day*	First year*
L	Relaxed	5 ppb	0.5 ppm
S	Standard	3 ppb	0.3 ppm
P	Improved	2 ppb	0.2 ppm

* for 100MHz operational freq.

5	Supply voltage	
Code	Specification	
3	3.3V $\pm 5\%$	
5	5V $\pm 5\%$	

6	Output	
Code	Specification	
T	HCMOS/TTL	
S	Sinewave	

Deviations of the parameters are possible on Customer's requirements.