

Specification
MXOC Series High Stability Low Phase-Noise OCXO

Parameter	Sym.	Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency range	f_0		5		250	MHz	
RF output							
HCMOS (TTL) option	Load		10		15	kOhm	
	H-level voltage	V_H	3.8			V	
	L-level voltage	V_L			0.4	V	
	Duty cycle		45		55	%	
	Rise/Fall time				10	ns	
Sine-wave option	Level	L	+6	+8	+10	dBm	for 10 MHz operational frequency
	Load	R_L			50	Ohm	
	Harmonics level				-25	dBc	
Sub-harmonics level		Operational frequency <30 MHz Operational frequency \geq 30 MHz		none	-40	dBc	Frequency multiplier used
Power supply							
Voltage	V_{cc}		4.75	5.0	5.25	V	3.3V, 12V optional
Power consumption		Warm-up state Steady state, +25°C		3.2 1	3.5 1.2	W	
Warm-up time	t_{up}	to $\Delta f/f=1e-7$, at +25°C			180	s	ref. to frequency after 30 min.
Frequency control*							
Control voltage range	V_c	$V_{cc}=5$ or 12 V $V_{cc}=3.3$ V	0 0		4.2 2.8	V	Positive tuning slope (standard option)
Tuning range			± 0.5	± 1		ppm	
Reference voltage	V_{ref}	$V_{cc}=5$ or 12 V $V_{cc}=3.3$ V	4.10 2.70	4.2 2.8	4.30 2.90	V	
Frequency stability							
vs. temperature		-30°C to +70°C, ref 25°C		± 10		ppb	See chart below
vs. supply voltage		ref Vcc typ.		± 1		ppb	
vs. acceleration		Worst direction			± 1	ppb/G	
SSB Phase noise		1 Hz		-95		dBc/Hz	for 10MHz operational frequency
		10 Hz		-125			
		100 Hz		-145			
		1 kHz		-155			
		10 kHz		-165			
Allan variance		1 s		10		e-12	
Aging	per day	after 30 days of operation			± 0.5	ppb	Standard option S (see chart below)
	first year				± 50	ppb	
	for 20 years				± 0.5	ppm	
Environmental, mechanical conditions.							
Operating temperature range		-30°C to +70°C Standard. Other options - see chart below.					
Storage temperature range		-60°C to +95°C					
Humidity		Hermetically sealed					
Mechanical shock		Per MIL-STD-202, 30G half sine pulse, 11ms					
Vibration		Per MIL-STD-202, 10G swept sine 10 to 1000 Hz					
Soldering conditions		260°C 10s					

* No frequency control option – on customer requirement

Ordering code

MXOCI	-	C	18	S	5	T	-	10 MHz
		1	2	3	4	5		

1	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..85°C

2	Stability over temperature		
Code	Specification	Temperature range code available	
XZ	$\pm Xe-Y$		
19	$\pm 1e-9$	A...B	
29	$\pm 2e-9$	A...E	
39	$\pm 3e-9$	A...F	
59	$\pm 5e-9$	A...F	
18	$\pm 1e-8$	A...F	
28	$\pm 2e-8$	A...F	
58	$\pm 5e-8$	A...F	
17	$\pm 1e-7$	A...F	

3	Aging			
Code	Specification	Per day*	First year*	
L	Relaxed	1 ppb	100 ppb	
S	Standard	0.5 ppb	50 ppb	
P	Improved	0.3 ppb	30 ppb	

* for 10 MHz operational freq.

4	Supply voltage	
Code	Specification	
3	3.3V \pm 5%	
5	5V \pm 5%	
2	12V \pm 10%	

5	Output	
Code	Specification	
T	HSMOS/TTL	
S	Sinewave	

Deviation of the parameters is possible on customers' requirements.

YOU ARE WELCOME TO CONTACT US: By mail: Second Teplovovznaya Street, build. 2, Omsk, Russia, ZIP code: 644039. P.O.Box : 2313, ZIP code: 644046, Omsk, Russia. By Fax & Telephone: +7 (3812) 433-967 By E-mail: mxl@mxtal.ru Our website: www.magicxtal.com