

# EWOS10/20

#### **ULTRA-LOW POWER OCXO FOR MIL/AERO/GENERAL INDUSTRY**

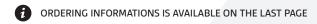
## PRODUCT OVERVIEW

EWOS10/20 is the least power consuming OCXO within Syrlinks products range. Widely used in aeronautic, defense or general industry applications, is shows a record low power consumption of 75 mW at 25°C. Powered with 5V, it is available in standard frequencies at 10 or 20 MHz with an operating temperatures up to 70°C or 85°C. Its high compactness and low power makes it ideal for high compacity battery powered systems requiring precision timing. EWOS10/20 can be disciplined thanks to its tuning pin and is highly resistant to shocks and vibrations.



### **KEY FEATURES**

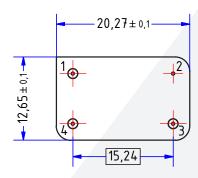
- 10 or 20 MHz clipped sine output
- ±100 ppb thermal sensitivity (typ., ordering Code B)
- 75 mW @ 25°C (typ.)
- ±2 ppb/day after 30 days (typ.)

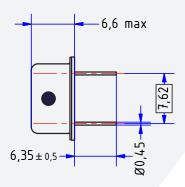


### **DIMENSIONS & PIN-OUT**

PIN	FUNCTION
1	Frequency control
2	Ground
3	Power supply
4	RF Out
5	Power Supply







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## **ELECTRICAL CHARACTERISTICS**

PARAMETERS	UNIT	MIN	TYP.	MAX	NOTE	COMMENTS
Output Frequency	MHz	10		20	1	Standard frequencies: 10, 20
Temperature Range						
Operating	°C	-30		+70		Ordering code B
	°C	-40		+85		Ordering code C
Storage	°C	-55		+95		
Supply Voltage	V		5			± 5%
Supply Current/ Power consumption						
Warm up	mA			220	3	During 10s max @25°C
Steady state / -40°C	mA		35	40	1	Ordering code C
Steady state / +25°C	mA		15	20	1	Ordering code C
Steady state / +85°C	mA		5	7	1	Ordering Code C
Frequency Stability						
Initial frequency accuracy	ppm		±1	±2	1	+25°C referred to nominal frequency. Control voltage @1.1V or control resistance Rc=3.8k Ohm
Vs operating temperature range	ppb		±100	±200	1	Ordering code B
	ppb		±150	±250	1	Ordering code C
<ul><li>Vs supply voltage variation</li></ul>	ppb		±0.1	±0.2	2	5V±5%
Vs load	ppb		±0.1	±0.1	2	(10 k $\Omega$ // 10pF) Load ±10%
<ul><li>Short-term (τ=0.1s)</li></ul>	10-11		2	10	2	Allan deviation @10 MHz
(τ=1s)	10-11		3	10	2	
Aging						
Per day	ppb		±2	±5	2	After 30 days
First year	ppm			±1	2	
After 20 years	ppm			±5	2	
<ul> <li>Acceleration sensitivity</li> </ul>			±1	_3	3	Worst direction
•	ppb/G		ΞI			
Warm-Up Time	sec			10	3	To ±1 ppm of final frequency (1 hour)
	sec			60	3	To ±100 ppb of final frequency (1 hour)
Phase Noise @10 MHz						
■ 1 Hz	dBc/Hz			-85	2	
■ 10 Hz	dBc/Hz			-105	2	
<b>-</b> 100 Hz	dBc/Hz			-135	2	
■ 1 kHz	dBc/Hz			-145	2	
■ 10 kHz	dBc/Hz			-150	2	
Clipped sinewave output parameters						
<ul><li>Output level</li></ul>	Vpp	0.6	1.2	2.0	3	Clipped sinewave - DC cut - Load 10k $\Omega$ // 10 pF
<ul> <li>Output Impedance</li> </ul>	$k\Omega$		1		3	
	pF		5		3	
Frequency Tuning						*Fixed Frequency is possible
Tuning Voltage	V	0		4.1	3	or 0 Ohm to 1M Ohm resistance to ground
Tuning Range	ppm	±4	±5	±7	2	
Tuning Slope			Positive			
Tuning Input Impedance	kΩ		10		3	
	pF		100		3	
Weight	grams		4			

#### **NOTES**

- 1. Parameter inspected at 100%
- 2. Parameter inspected by sampling
- 3. Parameter guaranteed by design & characterization

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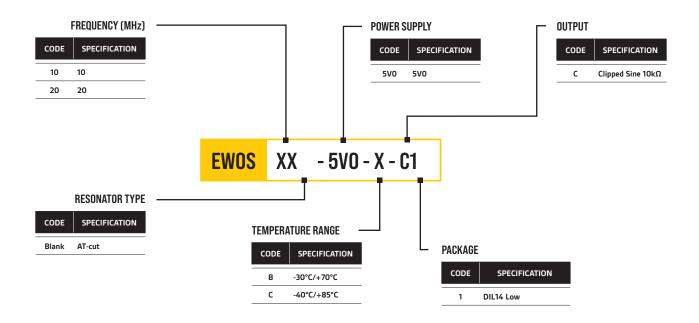
ENVIRONMENTAL CONDITION	DNS					
Shocks	1500G peak / 0.5 ms / 3 axis ; MIL-STD-883 method 2002, Test Condition B					
Vibrations	16.91 Grms / 10 to 2000 Hz Random / 3 min per axis, MIL STD 202-214 cond E					
Soldering instructions	Hand soldering with recommended pins temperature: 235°C ±5°C, t=10s ±05s (260°C max for 5s max)					
	Selective wave soldering with limitation of pre-heating to reach the max temperature of 85°C (body of component) and 3 s max at max temperature					
	Use of no-clean solder paste					
	When connecting a pad to a copper plane, thermal pads are recommended					
Mounting instructions	Metallic case glued onto the PCB, without glue overflow into the metallized holes					
	No spacer material between OCXO and PCB					
PCB cleaning/washing	Washable with a temperature below 85°C					

#### **OCXO HERMETICITY**

Metallic housing hermetically sealed

Fine Leaks and Gross Leaks tests performed 100%

### ORDERING INFORMATION



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