

Datasheet

AXIOM30HP

HIGH PERFORMANCE OCXO IN CO15 16-PIN PACKAGE

24.8 x 20.3 x 11 mm max. CO15-7

FEATURES

- High Performance OCXO
- Standard holder CO15 thru hole 16-pin
- Low Phase Noise -150 dBc/Hz
- Sine wave output signal



Parameter	min.	typ.	max.	Unit	Condition
Nominal frequency		10.000		MHz	
Frequency stability				ppm	
Initial tolerance		± 20	± 50	ppb	@V _C = V _{REF} /2 ± 10%
vs. operating temperature range			± 5	ppb	steady state
operating temperature range	-10		+60	°C	
vs. supply voltage variation		± 0.5		ppb	
vs. load change			± 0.5	ppb	
long term (aging) per day			± 0.5	ppb/day	@+40°C, after 30 days
long term (aging) 1 st year			± 30	ppb	@+40°C, after 30 days
long term (aging) per 15 years after			± 500	ppb	
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 0.8	± 1		ppm	
EFC voltage V _C	0	2.5	VREF	V	
EFC slope (Df / DV _C)		Positive			
EFC input impedance	100			kΩ	
RF output					
Signal waveform		Sine wave			
Load		50		Ω	± 10 %
Output level	+5		+10	dBm	
Harmonics			-20	dBc	
Warm-up time @25°C		5	10	min	Df _{final} /f ₀ < ±10 ppb
Phase noise			-100	dBc/Hz	@ 1Hz
			-130	dBc/Hz	@ 10 Hz
			-145	dBc/Hz	@ 100 Hz
			-150	dBc/Hz	@ 1 kHz
			-150	dBc/Hz	@ 10 kHz
			-150	dBc/Hz	@ 100 kHz
Short term stability (Allan Deviation ADEV)		5·10 ⁻¹² 1·10 ⁻¹¹	1·10 ⁻¹⁰		t = 1 s t = 10 s t = 100 s
Reference Voltage Output		5.0		V	I _{load} max. 100 μA
Oven alarm output (pin 2)		LOW = alarm (not stable) HIGH = ready			0 ... 0.4 V 2.4 ... 5 V
Oscillator Enable input (pin 6)		LOW = Oscillator OFF HIGH = Oscillator ON			HCMOS compatible
Supply voltage V_s	11.4	12	12.6	V	
Current consumption			100	mA	steady state, @ +25°C
Current consumption (warm-up)			350	mA	
Storage temperature range	-40		+85	°C	
Enclosure (see drawing)		24.8x20.3x11 max.		mm	IEC 60679-3 CO15-7
Weight			10	gram	
Packing		Palette			IEC 60286-3

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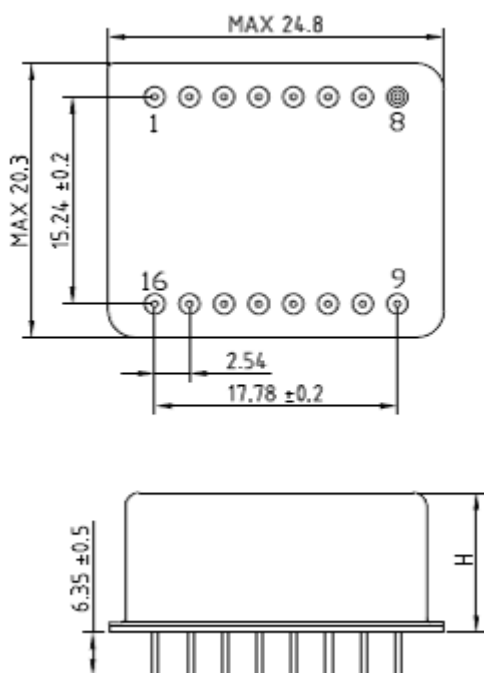
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Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated

Enclosure drawing:



Pin connections

Pin #	Symbol	Function
1	V _S	Supply Voltage
2	OE	Oscillator Enable Input
3	N.C.	No connection
4	I.C.	Do not connect !
5	N.C.	No connection
6	N.C.	No connection
7	RF OUT	RF Output
8	GND	Ground
9	N.C.	No connection
10	OA	Oven Alarm Output
11	N.C.	No connection
12	N.C.	No connection
13	N.C.	No connection
14	N.C.	No connection
15	V _C	Control Voltage (EFC)
16	V _{REF}	Reference Voltage

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions
Sealing tests (if applicable)	2-17	4.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability	2-20	4.6.3	Test Ta (235 ± 5)°C Method 1
Resistance to soldering heat	2-58		Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	4.6.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Endurance tests			
- ageing		4.7.1	30 days @ 85°C, OCXO @ 25°C
- extended aging		4.7.2	1000h, 2000h, 8000h @ 85°C

Other environmental conditions on request

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