

<b>Specification</b>	<b>AXIOM30S</b>	Issue: 02	Date: 2005-07-15
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**Oscillator type : OCXO Miniature size with Stratum 3E stability**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	10		20	MHz	
<b>Standard frequencies</b>	10 / 12.8 / 20			MHz	
<b>Frequency stability overall</b>			± 4.6	ppm	Note 2
Initial tolerance			± 1.0	ppm	at time of shipment
vs. temperature in operating temperature range (steady state)			± 10	ppb	
Operating temperature range	0		50	°C	Option II = "050"
	0		70	°C	Option II = "070"
vs. supply voltage variation			± 1	ppb	V <sub>S</sub> ± 5%
vs. load change			± 1	ppb	± 5%
Holdover 24 hours, full temp. range			± 12	ppb	Telcordia GR-1244 CORE
24 hours drift (after 30 days)			± 1	ppb	or ITU-T G.813 Option 1
Long term stability over 15 years			± 3.5	ppm	15 years
<b>Frequency adjustment</b>					
Electronic Frequency Control (EFC)		N.A.			N.A.
<b>RF output</b>					
Signal waveform	HCMOS				
Load	15			pF	
Rise & decay time			10	ns	
Symmetry (duty cycle)	40		60	%	
Warm-up time @25°C			5	min	$\Delta f_{\text{final}}/f_0 < \pm 0.1 \text{ ppm}$
Phase noise @ 12.8 MHz		-90		dBc	1 Hz
		-120		dBc	10 Hz
		-140		dBc	100 Hz
		-145		dBc	1000 Hz
<b>Short term stability (Allan Variance) <math>\sigma(\tau)</math></b>		0,2		ppb	$\tau = 10 \text{ sec}$
<b>Supply voltage V<sub>S</sub></b>	3.15	3.3	3.45	V	Option I = "33"
	4.75	5.0	5.25		Option I = "50"
<b>Current consumption (steady state) @25°C</b>			300	mA	Option I = "33"
			250	mA	Option I = "50"
<b>Current consumption (warm-up) @25°C</b>			800	mA	Option I = "33"
			500	mA	Option I = "50"
<b>Operable temperature range</b>	-25		+80	°C	
<b>Storage temperature range</b>	-45		+90	°C	
<b>Enclosure (LxWxH) max.</b>	20.5 x 20.5 x 12			mm	CO-15 (IEC 60679-3)
<b>Weight</b>			10	g	
<b>Packing</b>	Bulk				IEC 60286-3
<b>ESD Sensitivity</b>	1500			V	HBM as in IEC 61000-4-2

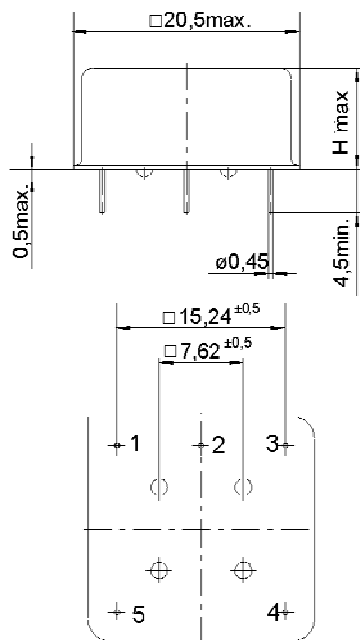
**Notes:**

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Overall frequency stability = initial tolerance + temp.stability + supply & load change + 15 years aging

**Ordering Code:**

Model (Specification)	Option I	Option II	Frequency [MHz]
AXIOM30S	50	050	12.800

## Enclosure drawing



## Pin connections

Pin #	Symbol	Function
1	V <sub>S</sub>	Supply Voltage
2	RF OUT	RF Output
3	GND	Ground
4	N.C.	No Connection
5	N.C.	No Connection

## Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions
Visual inspection, dimensions		4.3	Enclosure styles as in IEC 60679-3 or 61837, if applicable
Sealing tests (if applicable)	2-17	4.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	4.6.3	Test Ta (235 $\pm$ 5) $^{\circ}$ C Method 1 Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Bump*	2-29	4.6.6	Test Eb, 4000 bumps per Axes, 40g, 6 ms
Free fall*	2-32	4.6.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal*	2-6	4.6.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Rapid change of temperature	2-14	4.6.5	Test Na, 10 cycles at extremes of operating temperature range
Dry heat	2-2	4.6.14	Test Ba, 16 h at upper temperature indicated by climatic category
Damp heat, cyclic*	2-30	4.6.15	Test Db variant 1 severity b), 55 $^{\circ}$ C/95% r.H., 6 cycles
Cold	2-1	4.6.16	Test Aa, 2 h at lower temperature indicated by climatic category
Climatic sequence*	1-7	4.6.17	Sequence of 4.6.14, 4.6.15 (1 <sup>st</sup> cycle), 4.6.16, 4.6.15 (5 cycles)
Damp heat, steady state*	2-3	4.6.18	Test Ca, 56 days
Endurance tests - ageing - extended aging		4.7.1 4.7.2	30 days @ 85 $^{\circ}$ C, OCXO @ 25 $^{\circ}$ C 1000h, 2000h, 8000h @ 85 $^{\circ}$ C