AXTAL ADVANCED XTAL PRODUCTS

Specification	AXIOM30HP	Issue: 01	Date: 2006-06-31

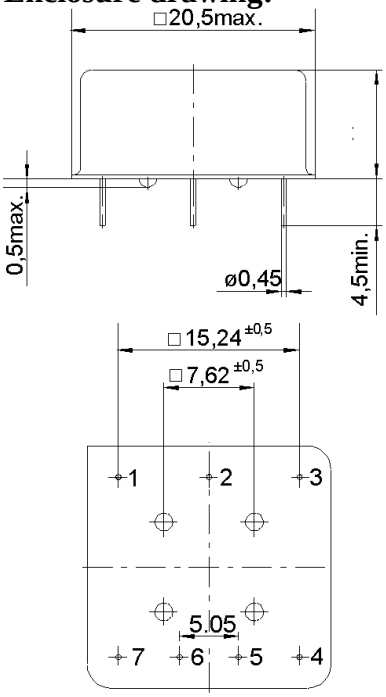
Oscillator type : High-performance OCXO in CO15 package

Parameter	min.	typ.	max.	Unit	Condition
Frequency range				MHz	Note 2
Standard frequencies		10.000		MHz	
Frequency stability				ppm	
Initial tolerance			± 20	ppb	@V_C= V_{REF}/2 ± 10%
vs. temperature (steady state)			± 5	ppb	
operating temperature range	-20		+70	°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) 1st year			± 30	ppb	@+40°C, after 30 days
long term (aging) per 15 years after			± 500	ppb	
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 1			ppm	
EFC voltage V_C	0	2.5	5	V	
EFC slope ($\Delta f / \Delta V_C$)		Positive			
EFC input impedance	100			kΩ	
RF output					
Signal waveform		Sinusoidal			
Load		50		Ω	± 10 %
Output level	+5		+10	dBm	
Harmonics			-20	dBc	
Warm-up time @25°C		5	105	min	$\Delta f_{final}/f_0$ < ±10 ppb
Phase noise			-100 -130 -145 -150 -150 -150	dBc dBc dBc dBc dBc dBc	@ 1Hz @ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz
Short term stability (Allan variance)			$5\cdot10^{-12}$ $1\cdot10^{-11}$ $1\cdot10^{-10}$		τ = 1 s τ = 10 s τ = 100 s
Reference Voltage Output		5.0		V	
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 (steady state, @ +25°C)			100	mA	
Current consumption (warm-up)			340	mA	
Storage temperature range	-40		+85	°C	
Enclosure (see drawing)		20.5x20.5x12 max.		mm	IEC 60679-3 CO15-7
Weight			10	gram	
Packing		Palette			IEC 60286-3
ESD Sensitivity	1500			V	HBM IEC 61000-4-2

Notes:

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

Enclosure drawing:



Pin connections

Pin #	Symbol	Function
1	RF OUT	RF Output
2	OA	Oven Alarm Output
3	GND	Ground
4	V_{REF}	Reference Voltage
5	V_C	Control Voltage (EFC)
6	OE	Oscillator Enable Input
7	V_S	Supply Voltage

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 ± 5)°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°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 (1st 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°C, OCXO @25°C 1000h, 2000h, 8000h @85°C