

<b>Specification</b>	<b>AXIOM75ULN</b>	Rev.: 01	Date: 2012-01-28
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**Oscillator type : Ultra-Low Phase Noise OCXO**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency Range</b>	80		125		
<b>Standard frequencies</b>	100.000 /120.000			MHz	
<b>Frequency stability</b>					
Initial tolerance at delivery			± 500	ppb	@+25°C @V <sub>C</sub> = VREF/2
vs. temperature in operating temperature range			± 200	ppb	Option II = "200"
			± 100	ppb	Option II = "100"
			± 50	ppb	Option II = "50"
			± 25	ppb	Option II = "25"
			± 10	ppb	Option II = "10"
operating temperature range	-10		+60	°C	Note 2
vs. supply voltage variation			± 10	ppb	V <sub>S</sub> ± 5%
vs. load change			± 5	ppb	R <sub>L</sub> ± 5%
Long term (aging) per day, after 30 days operation		± 5	± 10	ppb	Option II="200", "100"
		± 1	± 2	ppb	Option II="50", "25", "10"
long term (aging) 1 <sup>st</sup> year, after 30 days operation			± 200	ppb	Option II="200", "100"
			± 100	ppb	Option II="50", "25", "10"
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)	± 1	± 2		ppm	
EFC voltage V <sub>C</sub>	0		VREF	V	
EFC slope (Δf / ΔV <sub>C</sub> )	positive				
EFC input impedance	100			kΩ	
<b>RF output</b>					
Signal waveform	Sine wave				R <sub>L</sub> = 50 Ω
Output level	+ 7			dBm	
Harmonics			-30	dBc	
Spurious			-90	dBc	
Warm-up time			5	min	Δf <sub>final</sub> /f <sub>0</sub> < ±0.1 ppm
Phase noise @ 10.000 MHz	See table below				Option I
<b>Reference voltage VREF output</b>		10.0		V	
<b>Supply voltage V<sub>S</sub></b>	11.4	12	12.6	V	Note 3
<b>Current consumption (steady state)</b>			100	mA	@ +25°C
<b>Current consumption (warm-up)</b>			250	mA	
<b>Operable temperature range</b>	-20		+70	°C	
<b>Storage temperature range</b>	-40		+85	°C	
<b>Enclosure (see drawing) (LxWxH)</b>	25.8x25.8x12.7max.			mm	IEC 60679-3 CO 43
<b>Weight</b>			10	gram	
<b>Handling and Testing</b>	In accordance with AXAN-011				www.axtal.com
<b>Processing</b>	In accordance with AXAN-012				www.axtal.com

**Notes:**

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Other operating temperature range on request
3. Other supply voltage on request

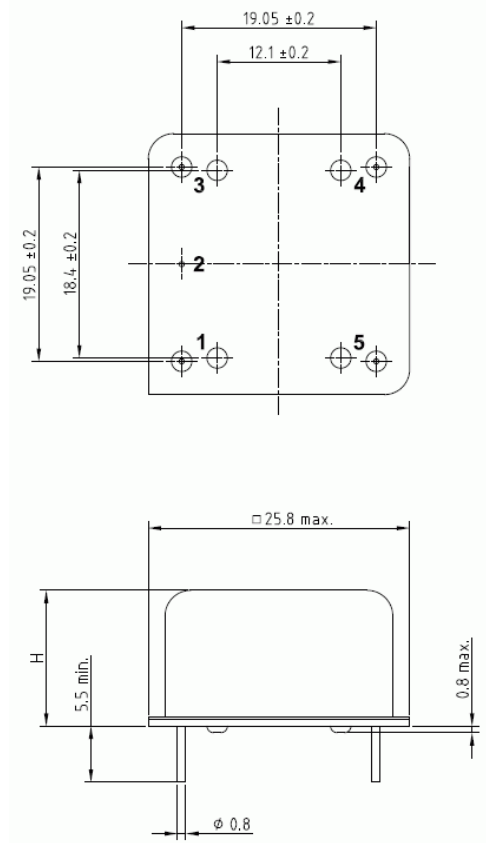
## Phase Noise options I:

Offset	100 MHz					120 MHz					Unit
	A	B	C	D	E	A	B	C	D	E	
10 Hz	-90	-95	-97	-100	-105	-85	-90	-95	-97	-100	dBc/Hz
100 Hz	-125	-130	-132	-135	-137	-118	-122	-125	-127	-130	dBc/Hz
1 kHz	-155	-158	-160	-162	-164	-148	-150	-153	-155	-157	dBc/Hz
10 kHz	-165	-168	-170	-172	-174	-160	-165	-168	-170	-172	dBc/Hz
≥100 kHz	-175	-175	-175	-175	-175	-175	-175	-175	-175	-175	dBc/Hz

## Ordering Code:

Model (Specification)	Phase Noise Option I	Stability Option II	Frequency [MHz]
AXIOM75ULN	A	25	100.000

## Enclosure drawing



## Pin connections

Pin #	Symbol	Function
1	RF OUT	RF Output
2	GND	Ground, case
3	$V_C$	Control Voltage (EFC)
4	VREF	Reference Voltage
5	$V_S$	Supply 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 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
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 - extended aging		4.7.1 4.7.2	30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

Other environmental conditions on request