

<b>Specification</b>	<b>AXIOM450</b>	Rev.: 1	Date: 2018-10-15
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**Oscillator type: VHF Ultra-Low Phase Noise OCXO in Eurocase Package**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	160		500	MHz	Multiplication (Note 2)
<b>Frequency stability</b>					
Initial tolerance @ +25°C			±200	ppb	@ V <sub>c</sub> = 5.0 V
vs. operating temperature range			±500	ppb	steady state
vs. supply voltage variation (pushing)			±10	ppb	V <sub>s</sub> ±5%
vs. load change (pulling)			±5	ppb	R <sub>L</sub> ±5%
Long term (aging) per day		±1	±2	ppb	after 30 days operation
Long term (aging) 1 <sup>st</sup> year		±100	±200	ppb	after 30 days operation
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)	±1	±2		ppm	
EFC voltage V <sub>c</sub>	1.0	5.0	9.0	V	(Note 3)
EFC slope (Δf / ΔV <sub>c</sub> )	Positive				
EFC input impedance	100			kΩ	
<b>RF output</b>					
Signal waveform	Sine wave				
Load R <sub>L</sub>	50			Ω	±5%
Output level	+11	+13	+15	dBm	
Harmonics		-50	-40	dBc	
Sub-harmonics (multiples of f <sub>OUT</sub> /N)		-60	-50	dBc	(Note 2)
Spurious			-90	dBc	
Warm-up time @ +25°C			5	min	Δf <sub>final</sub> /f <sub>0</sub> < ±0.1 ppm
Phase noise @ 250 MHz (Note 4)			-95	dBc/Hz	@ 10 Hz
			-125	dBc/Hz	@ 100 Hz
			-150	dBc/Hz	@ 1 kHz
		-162	-160	dBc/Hz	@ 10 kHz
		-164	-160	dBc/Hz	@ ≥100 kHz
G-Sensitivity		0.5		ppb/g	
<b>Supply voltage V<sub>s</sub></b>	11.4	12.0	12.6	V	
<b>Current consumption (steady state)</b>			250	mA	@ +25°C
<b>Current consumption (warm-up)</b>			500	mA	
<b>Operating temperature range</b>	-40		+85	°C	
<b>Enclosure (see drawing) (LxWxH)</b>	36.1x27.2x20 max.			mm	IEC 60679-3 CO 08
<b>Weight</b>			40	g	
<b>Packing</b>	Palette				

**Notes:**

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Multiplication factor N depends on frequency
3. Other tuning voltages on request
4. Please consult factory for phase noise of other frequencies

### Absolute Maximum Ratings

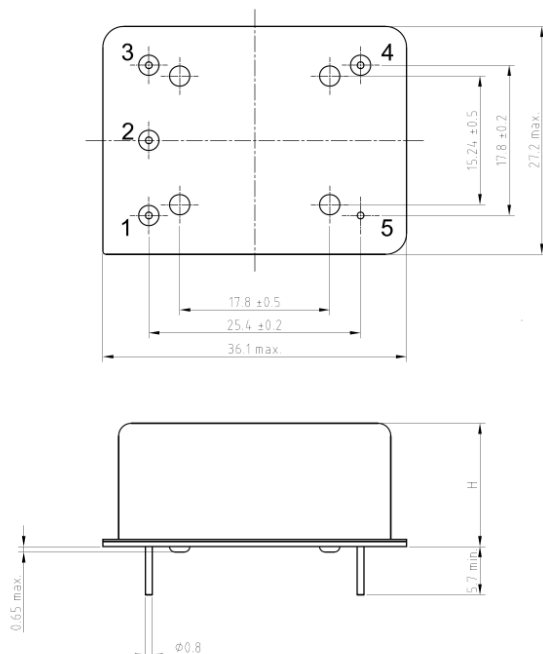
Parameter	min.	max.	Unit	Condition
Supply Voltage $V_S$	-0.5	$V_S + 10\%$	V	$V_S$ to GND
Control Voltage $V_C$	-0.5	15	V	$V_C$ to GND
Storage Temperature	-55	+105	°C	

### Ordering Code

Model	Revision	Frequency [MHz]
AXIOM450	Rev.1	250.000

Example: AXIOM450\_Rev.1 – 250.000 MHz

### Enclosure drawing



### Pin connections:

Pin #	Symbol	Function
1	$V_C$	Control Voltage (EFC)
2	N.C.	No Connection
3	$V_S$	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

### Handling and Testing

Parameter	Procedure		Source
Handling and Testing	Application Note AXAN-011		www.axtal.com
Processing	Application Note AXAN-012		www.axtal.com
Parameter	Procedure		Condition
Electrostatic discharge (ESD)			
THD devices	IEC60749-26	HBM	2000 V
SMD devices	IEC60749-27	MM	200 V
Washable	☒ Yes <input type="checkbox"/> No		
RoHS- Compliant	☒ Yes <input type="checkbox"/> No		

### Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta Method 1 Test Td <sub>1</sub> Method 2 Test Td <sub>2</sub> Method 2
Shock*	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Vibration, random*	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - ageing - extended aging		5.7.1 5.7.2	108A		4.8.35	30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

Other environmental conditions on request

Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice.

### Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	15.10.2018	First issue	HH	HH