

<b>Specification</b>	<b>AXIOM260</b>	Issue: 01	Date: 2008-09-04
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**Oscillator type : OCXO with Low Phase Noise under Vibration**

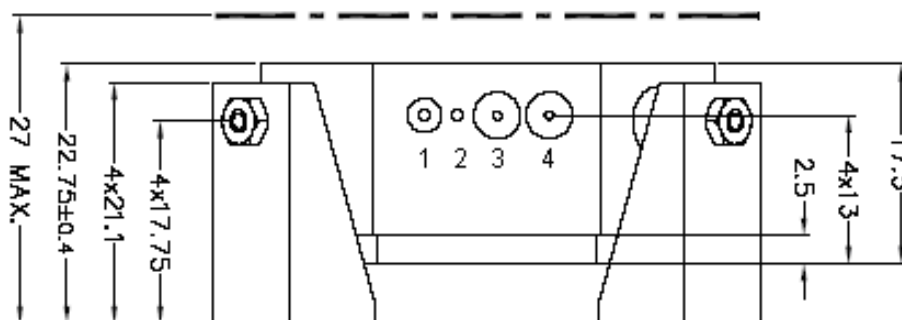
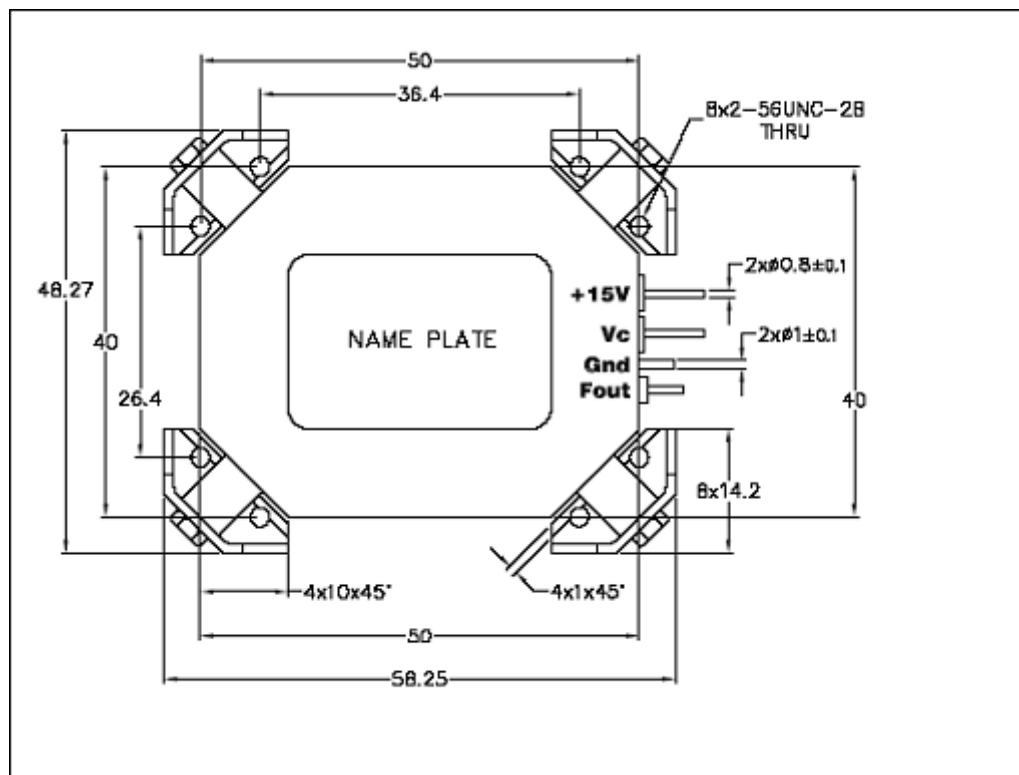
Parameter	min.	typ.	max.	Unit	Condition
<b>Nominal frequency</b>	120.000			MHz	@V <sub>C</sub> = 0 V
<b>Frequency stability</b>					
Initial tolerance at delivery			± 1	ppm	@+25°C @V <sub>C</sub> = 0 V
vs. temperature in operating temperature range			± 2.0 ± 3.0	ppm ppm	-30°C~+71°C -40°C~+85°C
vs. supply voltage variation			± 10	ppb	V <sub>S</sub> ± 2%
vs. load change			± 10	ppb	R <sub>L</sub> ± 10%
Long term (aging) per day			± 10	ppb/day	
Long term (aging) 1 <sup>st</sup> year			± 100	ppb	
Long term (aging) over 10 years			± 1.5	ppm	
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)	± 1.6			ppm	
EFC voltage V <sub>C</sub>	-4.0	0	+4.0	V	
EFC tuning sensitivity		0.75		ppm/V	
EFC slope (Δf / ΔV <sub>C</sub> )	positive				
EFC input impedance	10			kΩ	
<b>RF output</b>					
Signal waveform	Sine wave				
Load R <sub>L</sub>	50			Ω	
Output level @ V <sub>C</sub> = 0 V	+ 6.0	+7	+8.0	dBm	Note 2
@ V <sub>C</sub> = ± 4 V	+5.5	+7	+8.5	dBm	Note 2
@ V <sub>C</sub> = ± 4 V	+5.0	+7	+9.0	dBm	Note 3
Output VSWR			1.5		Note 4
Harmonics			-30	dBc	
Spurious			-80 -100 -120	dBc dBc dBc	100 Hz ~ 1 kHz 1 kHz ~ 10 kHz 10 kHz ~ 20 MHz
Power Supply Ripple Rejection (10 mVp-p)			-110	dBc	DC to 2 MHz
Warm-up time			80	sec	to full performance
Phase noise in quiet state		-85 -115 -145 -145 -165 -168 -168		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 10 Hz @ 100 Hz @ 1kHz @ 2 kHz @ 10 kHz @ 50 kHz @ 100 kHz
Phase noise under vibration (vibration spectrum see table III)		-55 -55 -125 -145 -155 -165 -168		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 10 Hz @ 100 Hz @ 1kHz @ 2 kHz @ 10 kHz @ 50 kHz @ 100 kHz
<b>Supply voltage V<sub>S</sub></b>	14.25	15	15.75	V	
<b>Current consumption (steady state)</b>			400 300 150 100	mA mA mA mA	@ -40°C @ 0°C @ +25°C @ +85°C
<b>Current consumption (warm-up)</b>			550	mA	

Parameter	min.	typ.	max.	Unit	Condition
Operating temperature range	-40		+85	°C	
Operable temperature range	-45		+90	°C	
Storage temperature range	-55		+105	°C	
Enclosure	58.25 x 48.27 x 22.75			mm	see drawing
Weight			75	gram	Including shock absorbers
Finish	MIL-F-14072 type I				Or equivalent
Solder pins	RF: 0.8 mm diameter, Others: 1.0 mm diameter				tin-plated

**Notes:**

1. Terminology and test conditions are according to IEC standard IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. from any temperature in the range -30°C to +71°C
3. from any temperature in the range -40°C to +85°C
4. at 120 MHz ± 2.5 MHz @ +25°C

**Enclosure drawings**



## Pin connections

Pin #	Symbol	Function
1	RF OUT	RF Output
2	GND	Ground, case
3	V <sub>C</sub>	Control Voltage (EFC)
5	V <sub>S</sub>	Supply Voltage

Table 2: pin connections

## Environmental conditions

Test	Reference	Test conditions
Altitude		Sea level to 55000 feet
Vibration, random	MIL-PRF55310	15 Hz 0.06 g <sup>2</sup> /Hz 300 Hz 0.2 g <sup>2</sup> /Hz 1000 Hz 0.2 g <sup>2</sup> /Hz 2000 Hz 0.06 g <sup>2</sup> /Hz All three axes
Acceleration, linear		40g for 60 sec
Acceleration, angular		9000 dec/sec <sup>2</sup> @ 25 Hz along spinning axis
Moisture Resistance		Up to 85 % RH, including condensation, operating and non-operating
Salt spray	MIL-STD-810	Procedure 1, method 509.1
Fungus	MIL-STD-454	Requirement 4
EMI	MIL-STD-461B MIL-STD-462	Part 1 CE03;CS01; CS02; RE02; RS03
Endurance tests (ageing)	MIL-PRF55310	30 days operation @25°C

Table 3: Environmental conditions