

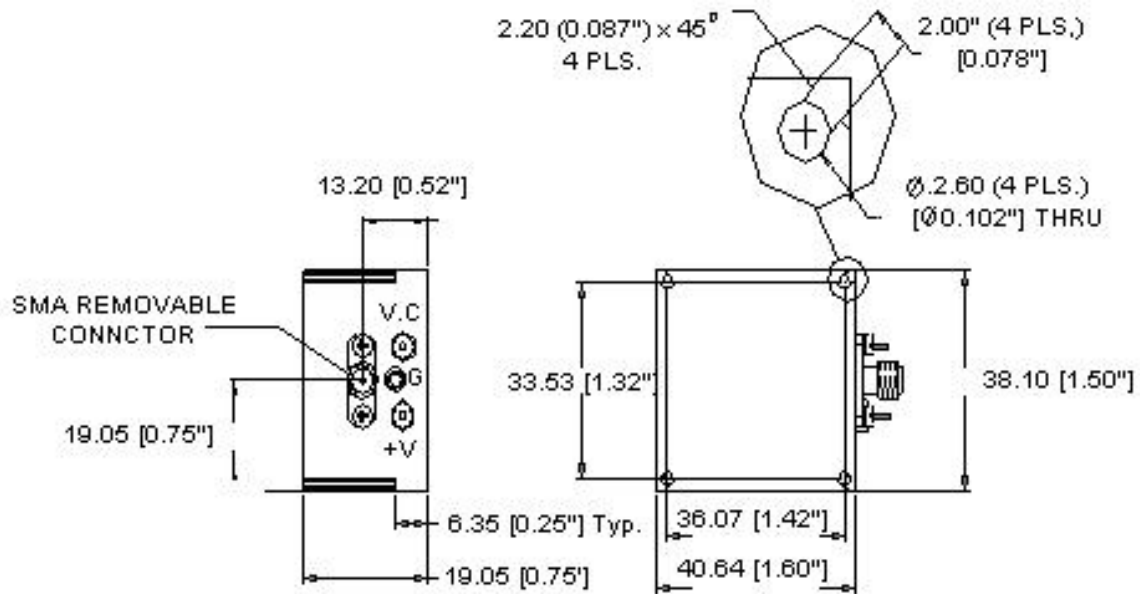
Specification	AXE160-140	Issue: 01	Date: 2008-09-05
Oscillator type : Crystal Oscillator (PXO) with SMA connector			

Parameter	min.	typ.	max.	Unit	Condition
Nominal frequency f_{nom}	120.000			MHz	
Frequency stability				ppm	
Overall tolerance			±140	ppm	Note 2
vs. temperature				ppm	Note 2
vs. supply voltage variation (pushing)				ppm	Note 2
vs. load change (pulling)				ppm	Note 2
long term (aging) over 15 years			±10	ppm	
Frequency adjustment range					
Mechanical (internal trimmer)	N.A.			ppm	
RF output					
Signal waveform	Sinewave				
Load	50			Ω	±10 %
Amplitude	+10	+12.5	+15	dBm	
Harmonics			-30	dBc	
Spurious & sub harmonics			-110	dBc	
Phase noise in quiet state		-80 -117 -145 -149 -155 -160 -160 -165		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 10 Hz @ 100 Hz @ 1 kHz @ 2 kHz @ 10 kHz @ 100 kHz @ 1MHz @ 10 MHz
Phase noise under vibration (vibration spectrum see table III)		-110		dBc/Hz	@ 2 kHz
Power Supply Ripple Rejection (10 mVp-p)			-110	dBc	1 kHz to 10 MHz
Start-up time			10	ms	Within ±140 ppm of f_{nom}
Supply voltage V_s	11.4	12	12.6	V	
Current consumption (steady state @ +25°C)			50	mA	
Operating temperature rane	-40		+85		
Operable temperature range	-45		+90	°C	
Storage temperature range	-50		+100	°C	
Enclosure (see drawing) (LxWxH)	40.64. x33.53 x 19.05			mm	
Weight				gram	
Finish	???				
RF output connector	SMA-F removable				

Notes:

- Terminology and test conditions are according to IEC standard IEC60679-1 and MIL-PRF-55310, unless otherwise stated
- Overall tolerance includes initial tolerance and frequency stability over operating temperature range plus pushing and pulling

Enclosure drawing



Environmental conditions

Test	Reference	Test conditions
Mechanical shock	MIL-STD-810E Method 561.4, Procedure I, VI	Operating: 20g peak, saw tooth for 9 ms Non operating: 40g peak, saw tooth for 9 ms
Vibration, random, non operating	MIL-STD-202F Meth.214, letter G, fig.214-1, 1 hour each axis, G _{rms} = 8.4 g	10 Hz 0.0246 g ² /Hz 20 Hz 0.1308 g ² /Hz 40 Hz 0.1308 g ² /Hz 60 Hz 0.0134 g ² /Hz 400 Hz 0.0134 g ² /Hz 1360 Hz 0.048 g ² /Hz 2000 Hz 0.048 g ² /Hz
Vibration, random, operating	MIL-STD-202F Meth.214, letter G, fig.214-1, 10 min. each axis, G _{rms} = 6.3 g	10 Hz 0.071 g ² /Hz 20 Hz 0.0213 g ² /Hz 1700 Hz 0.0213 g ² /Hz 2000 Hz 0.0071 g ² /Hz
Temperature shock (non operating)		-40°C to +85°C, change in 5 min. for 20 cycles, soak at each temperature extreme for 1 hour
Humidity	MIL-E-5400 Para 3.2.24.4	Up to 100 % RH, including condensation, operating and non-operating
Acceleration, linear		40 g for 60 sec simultaneously for 2 axes, 30 g for 3 rd axis, in each direction, 60 sec
Altitude		Sea level to 70000 feet in 2 minutes
Acoustic noise		150 dB, 50 Hz to 8 kHz for 60 min (non operating)

Table 3: Environmental conditions

Quality assurance provisions

Test	Reference	Test conditions
Screening (ESS)		Burn-in 72 hours @ +95°C 10 temperature shock cycles -55°C / +95°C, soak at each temperature extreme for 30 min.. Power applied at completion of cold cycle to completion of heat cycle
Gross leak	MIL-STD-883 Meth. 1014	Test condition C

Table 4: QA provisions