

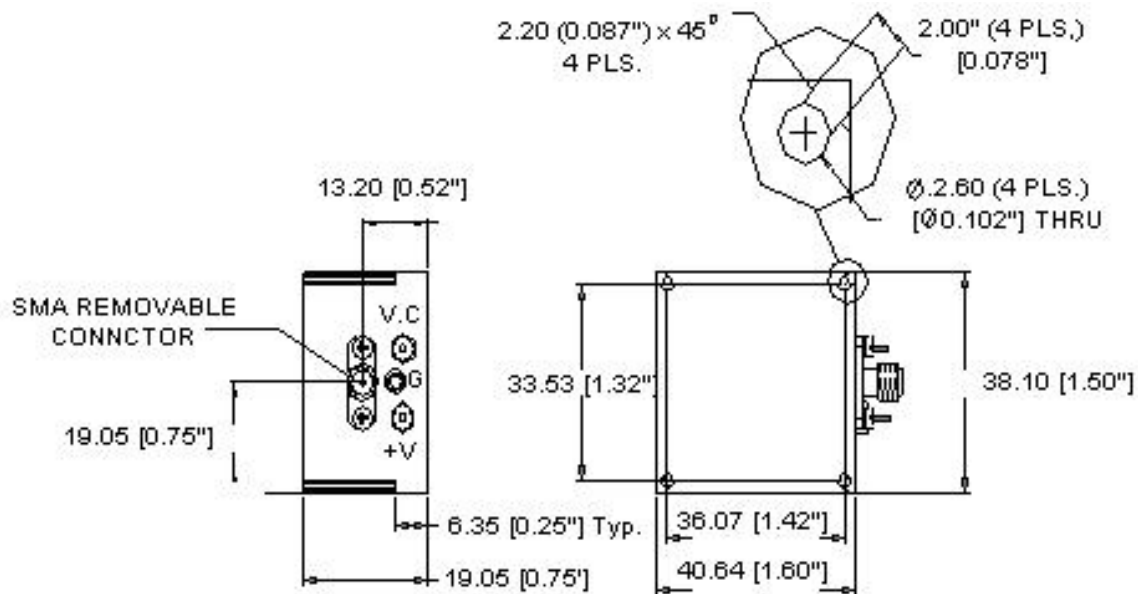
Specification	AXE160-140	Issue: 01	Date: 2008-09-05
Oscillator type : Crystal Oscillator (PXO) with SMA connector			

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:

1. Terminology and test conditions are according to IEC standard IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. 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