

Specification	AXE1000	Rev.: 5	Date: 2014-06-20
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Oscillator type: UHF Low Phase Noise Crystal Oscillator (SPXO)

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	300		1300	MHz	
Nominal frequencies	1000.000 / 1200.000			MHz	
Frequency stability				ppm	
Initial tolerance			±5	ppm	@ 25°C
vs. operating temperature range			±50	ppm	(Note 2)
vs. supply voltage variation			±1	ppm	V _S ±5%
vs. load change			±1	ppm	R _L ±5%
Long term (aging) 1 st year			±2	ppm	@ +25°C
Long term (aging) following years			±1	ppm	@ +25°C, per year
Frequency adjustment range					
Electronic frequency control (EFC)		N.A.			on request
RF output					
Signal waveform	Sine wave				
Load	50			Ω	
Output level	+7	+11		dBm	
Harmonics		-50	-40	dBc	
Sub-harmonics (multiples of f _{OUT} /10)		-45	-40	dBc	(Note 3)
Spurious			-80	dBc	
Phase noise @ 1000 MHz		-140	-135	dBc/Hz	@ 10 kHz
		-145	-140	dBc/Hz	@ 100 kHz
		-147	-145	dBc/Hz	@ 1 MHz
Start-up time		10	20	ms	
Supply voltage V_S	11.4	12.0	12.6	V	(Note 4)
Current consumption (steady state)			60	mA	@ +25°C
Operating temperature range	-20		+70	°C	
Enclosure (see drawing) (LxWxH)	54x40x19			mm	h = 2.0 mm
Weight			60	g	
Packing	Palette				

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other stabilities on request
3. Depending on frequency multiplication factor may be lower or higher than 10
4. Other supply voltages on request

Absolute Maximum Ratings

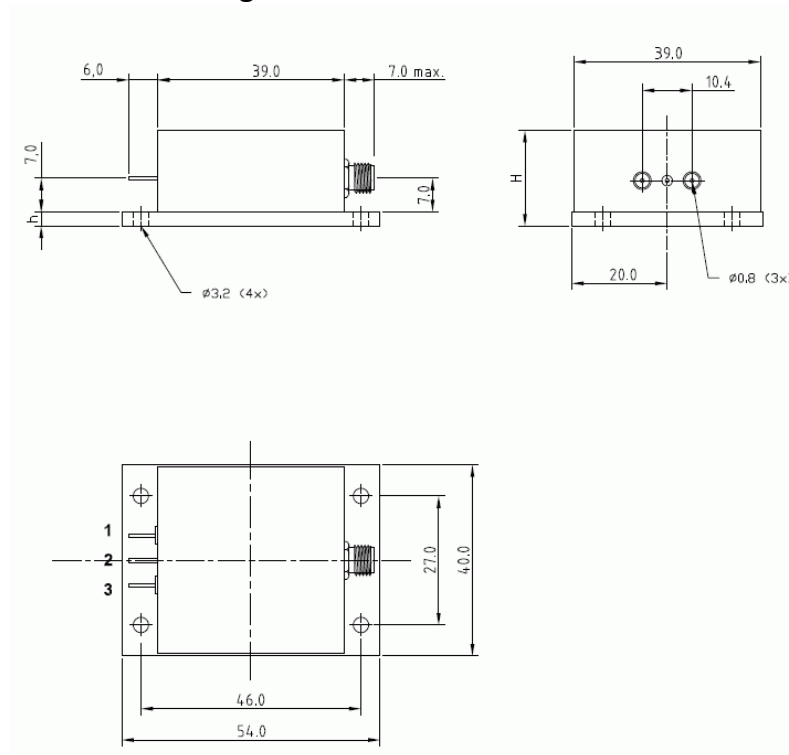
Parameter	min.	max.	Unit	Condition
Supply Voltage V _S	-0.5	V _S + 10%	V	V _S to GND
Storage Temperature	-55	+125	°C	

Ordering Code

Model	Revision	Frequency [MHz]
AXE1000	Rev.5	1000.000

Example: AXE1000_Rev.5 – 1000.000 MHz

Enclosure drawing



Pin connections

Pin#	Symbol	Function
1	N.C.	No Connection
2	GND	Ground
3	V _S	Supply Voltage
SMA	RF OUT	RF Output

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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
RoHS compliant	<input checked="" type="checkbox"/> 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 ₁ Method 2 Test Td ₂ 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
4	D0	01.10.2012	Frequency range extended to 500 MHz ~ 1200 MHz	BN	BN
5	D0	20.06.2014	Frequency range extended to 300 MHz ~ 1300 MHz, environmental conditions updated, editorial changes	HH	HH