

Specification	AXE10LN	Rev.: 2	Date: 2014-04-04
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Oscillator type: Low Phase Noise SMD SPXO with HCMOS Output

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	10		165	MHz	
Frequency stability				ppm	
Initial tolerance			±5	ppm	
vs. operating temperature range			±5	ppm	
vs. supply voltage variation			±0.5	ppm	V _S ±5%
vs. load change			±0.5	ppm	Load ±5%
Long term (aging) 1 st year			±1	ppm	@ 40°C
Frequency adjustment range					
Electronic Frequency Control (EFC)		N.A.		ppm	on request
RF output					
Signal waveform	HCMOS				
Load	15			pF	
Rise & decay time			5	ns	
Symmetry (duty cycle)	40		60	%	@ V _S /2
Start-up time			4	ms	
Phase noise @ 100 MHz (Note 3)		-95 -125 -150 -155 -160		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz ≥100 kHz
Supply voltage V_S	3.15 4.75	3.3 5.0	3.45 5.25	V V	Option = „33“ Option = „50“
Current consumption (steady state)			30	mA	@ +25°C
Operating temperature range	0		+50	°C	(Note 2)
Enclosure (see drawing)	14.4x9.5x6.0 max.			mm	IEC 61837 CO 27
Weight			2	g	
Packing	Tape & Reel				IEC 60286-3

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other temperature range and stabilities on request
3. Phase noise at other frequencies on request

Absolute Maximum Ratings

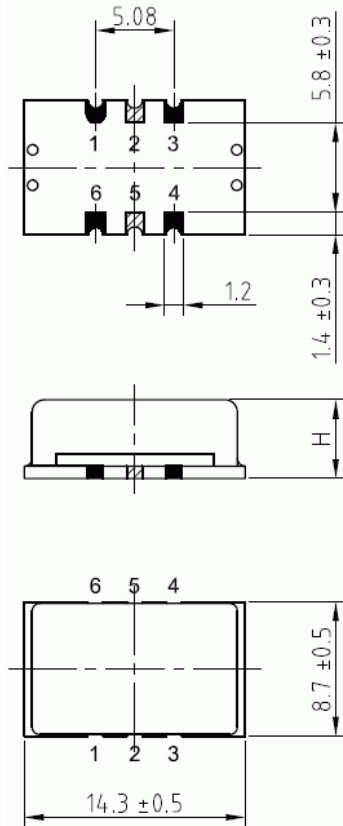
Parameter	min.	max.	Unit	Condition
Supply Voltage V _S	-0.5	V _S + 10%	V	V _S to GND
Storage Temperature	-55	+125	°C	

Ordering Code

Model	Option [Supply Voltage]	Revision	Frequency [MHz]
AXE10LN	50	Rev.2	100.000

Example: AXE10LN-50_Rev.2 – 100.000 MHz

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	N.C.	No Connection
2	N.C.	No Connection
3	GND	Ground
4	RF OUT	RF Output
5	N.C.	No Connection
6	Vs	Supply Voltage

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 type="checkbox"/> Yes <input checked="" 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
1	D0	01.10.2012	First issue	BN	BN
2	D0	04.04.2014	Stability parameters updated, 100 MHz phase noise added, environmental conditions updated, editorial changes	HH	HH