

<b>Specification</b>	<b>AXE40</b>	Rev.: 1	Date: 2014-04-04
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**Oscillator type: Low Phase Noise VHF/UHF SPXO (no PLL)  
with LVPECL or Sine Wave Output**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	60		400	MHz	
<b>Frequency stability</b>				ppm	
Initial tolerance			±5	ppm	
vs. operating temperature range			±10	ppm	(Note 2)
vs. supply voltage variation			±2	ppm	V <sub>S</sub> ±5%
vs. load change			±2	ppm	Load ±5%
Long term (aging) per year			±2	ppm	@ 40°C
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)		N.A.		ppm	on request
<b>RF output</b>					
Signal waveform	Sine Wave LVPECL Complementary				Option 1 = "S" Option 1 = "L"
Output Level (Option 1 = "S")	+0			dBm	R <sub>L</sub> = 50 Ω (Note 3)
Harmonics (Option 1 = "S")			-30	dBc	
Sub-harmonics (Note 4)			-40	dBc	
Output Levels (Option 1 = "L")					
HIGH (V <sub>OH</sub> )	2.215	2.345	2.420	V	R <sub>L</sub> = 50 Ω to V <sub>S</sub> - 2 V (Note 5)
LOW (V <sub>OL</sub> )	1.470	1.595	1.745	V	
<b>Supply voltage V<sub>S</sub></b>	3.15	3.3	3.45	V	Option 2 = "33"
	4.75	5.0	5.25	V	Option 2 = "50"
<b>Current consumption (steady state)</b>			40	mA	(Note 6)
<b>Operating temperature range</b>	-20		+70	°C	
<b>Enclosure (see drawing) (LxWxH)</b>	20.5x20.5x12.5 max.			mm	IEC 60679-3 CO 41
<b>Weight</b>			8	g	
<b>Packing</b>	Palette				IEC 60286-3

**Notes:**

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other stabilities over temperature on request
3. Higher output level on request
4. For frequencies above 100 MHz sub-harmonics may be present. Please consult factory
5. Output levels vary 1:1 with V<sub>S</sub>
6. Current consumption depends on frequency, supply voltage and output option

**Absolute Maximum Ratings**

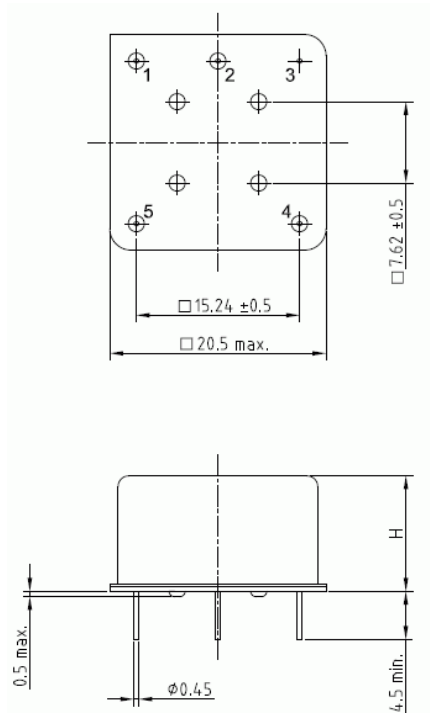
Parameter	min.	max.	Unit	Condition
Supply Voltage V <sub>S</sub>	-0.5	V <sub>S</sub> + 10%	V	V <sub>S</sub> to GND
Storage Temperature	-55	+125	°C	

## Ordering Code

Model	Option 1 [RF output]	Option 2 [Supply Voltage]	Revision	Frequency [MHz]
AXE40	S or L	50	Rev.1	350.000

Example: AXE40-S-50\_Rev.1 – 350.000 MHz

## Enclosure drawing



## Pin connections:

Pin #	Symbol	Function
1	N.C. $\bar{Q}$	No Connection (Option S) RF Output ( $\bar{Q}$ ) (Option L)
2	RF OUT	RF Output (Q)
3	GND	Ground
4	N.C.	No Connection
5	V <sub>S</sub>	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 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 <sub>1</sub> Method 2 Test Td <sub>2</sub> 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	D1	01.10.2012	Editorial changes	BN	BN
1	D2	04.04.2014	Environmental conditions updated, editorial changes	HH	HH