

<b>Specification</b>	<b>AXIOM45</b>	Rev.: 8	Date: 2014-04-18
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**Oscillator type: High Stability Eurocase OCXO with Sine Wave Output**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	5		125	MHz	
<b>Standard frequencies</b>	10.000/20.000/100.000			MHz	
<b>Frequency stability</b>					
Initial tolerance @ +25°C			±300	ppb	V <sub>c</sub> @ VREF/2
vs. operating temperature range	Option 2 & 3 See tables 1 & 2				steady state
vs. supply voltage variation (pushing)			±10	ppb	V <sub>s</sub> ±5%
vs. load change (pulling)			±10	ppb	R <sub>L</sub> ±10%
Long term (aging) per day (after 30 days operation) (Note 2)			±10 ±2	ppb ppb	AT-Cut SC-Cut
Long term (aging) 1 <sup>st</sup> year (after 30 days operation) (Note 2)		±300 ±50	±500 ±200	ppb ppb	AT-Cut SC-Cut
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)	±2 ±0.8		±5	ppm ppm	AT-Cut SC-Cut
EFC voltage V <sub>c</sub>	0	VREF/2	VREF	V	
EFC slope (Δf / ΔV <sub>c</sub> )	Positive				
EFC input impedance	100			kΩ	
<b>RF output</b>					
Signal waveform	Sine wave				
Load R <sub>L</sub>	50			Ω	±10%
Output level (Note 3)	+3			dBm	
Harmonics			-25	dBc	
Warm-up time @ +25°C		3	5	min	Δf <sub>final</sub> /f <sub>0</sub> < ±0.1 ppm
<b>Phase Noise</b>	Consult factory				
<b>Reference voltage VREF output</b> (Note 4)		4.0 5.0		V V	Option 1 = "50" Option 1 = "12"
<b>Supply voltage V<sub>s</sub></b>	4.75 11.4	5.0 12.0	5.25 12.6	V V	Option 1 = "50" Option 1 = "12"
<b>Current consumption</b> (steady state) @ +25°C (Note 5)			250 150	mA mA	Option 1 = "50" Option 1 = "12"
<b>Current consumption</b> (warm-up) (Note 5)			600 350	mA mA	Option 1 = "50" Option 1 = "12"
<b>Enclosure (see drawing) (LxWxH)</b> (Note 6)	36.1x27.2x16 max.			mm	IEC 60679-3 CO 08
<b>Weight</b>			25	g	
<b>Packing</b>	Palette				

**Notes:**

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Lower aging on request
3. Other output level on request
4. Other reference voltages on request
5. May be higher for wide operating temperature range
6. Lower height H available on request

### Absolute Maximum Ratings

Parameter	min.	max.	Unit	Condition
Supply Voltage $V_S$	-0.5	$V_S + 10\%$	V	$V_S$ to GND
Control Voltage $V_C$	-0.5	15	V	$V_C$ to GND
Storage Temperature	-55	+125	°C	

### Frequency stability vs. temperature

Option 2	Stability [ppb]
05	±5
10	±10
25	±25
50	±50
100	±100
200	±200

Table 1

Lower Temperature		Upper Temperature	
Option 3	T [°C]	Option 3	T [°C]
0	0	A	+50
1	-10	B	+60
2	-20	C	+70
3	-30	D	+75
4	-40	E	+80
5	-55	F	+85

Table 2

Standard: "1B" = -10°C to +60°C

Temperature range [°C]	Frequency stability [Option 2]					
	05	10	25	50	100	200
0 ~ +50	SC	SC	SC	AT	AT	AT
-10 ~ +60	SC	SC	SC	AT	AT	AT
-20 ~ +70	SC	SC	SC	SC	AT	AT
-30 ~ +70	O	SC	SC	SC	SC	AT
-40 ~ +75	O	O	SC	SC	SC	SC
-40 ~ +85	O	O	SC	SC	SC	SC
-55 ~ +85	-	O	O	SC	SC	SC

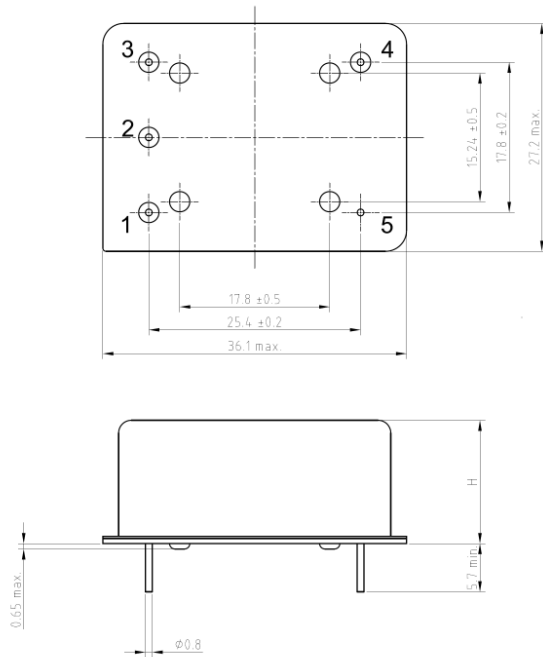
Table 3 "Availability" AT, SC = AT-Cut, SC-Cut available, O = available on request, - not available

### Ordering Code

Model	Option 1 [Supply Voltage]	Option 2 [Stability]	Option 3 [Temperature range]	Revision	Frequency [MHz]
AXIOM45	12, 50	Table 1	Table 2	Rev.8	10.000

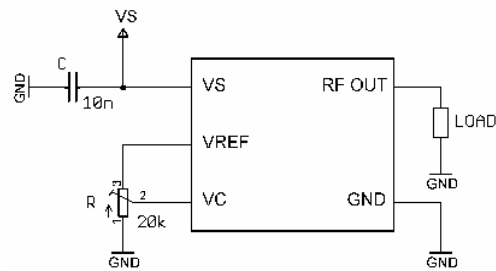
Example: AXIOM45-12-10-1B\_Rev.8 – 10.000 MHz

**Enclosure drawing**



**Pin connections**

Pin #	Symbol	Function
1	V <sub>C</sub>	Control Voltage (EFC)
2	VREF	Reference Voltage
3	V <sub>S</sub>	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground



\* See Application Note AXAN-011

**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
7	D0	14.10.2013	Major revision	CG	BN
8	D0	18.04.2014	Frequency range extended, various parameters updated, environmental conditions updated, editorial changes	HH	HH