

Specification	AXIOM5151	Issue: 2.0	Date: 2011-10-21
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Oscillator type : OCXO with Ultra-Low Phase Noise Floor of -180 dBc/Hz

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	80		125	MHz	
Standard frequencies	100.000 / 120.000			MHz	
Frequency stability					
Initial tolerance at delivery			± 500	ppb	@+25°C @V _C = 5.0 V
vs. operating temperature range			± 200	ppb	Note 2
operating temperature range	-10		+60	°C	Note 2
vs. supply voltage variation		± 20		ppb	V _S ± 5%
Long term (aging) per day			± 10	ppb/day	after 30 days operation
long term (aging) per year			± 500	ppb/year	after 30 days operation
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 1	± 2		ppm	
EFC voltage V _C	0		10.0	V	
EFC slope (Δf / ΔV _C)	positive				
Nonlinearity				%	
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Sine wave				R _L = 50 Ω
Output level	+ 14	+ 15		dBm	@V _C = 5.0 V
Harmonics			-40	dBc	
Spurious at rest			-110	dBc	
Phase noise	See table below				
Noise floor			-180	dBc/Hz	@ ≥ 100 kHz
Warm-up time @ 25°C			5	min	Δf _{final} /f ₀ < ±0.2 ppm
Supply voltage V_S	11.4	12	12.6	V	Note 3
Current consumption (steady state)			275	mA	@ +25°C
Current consumption (warm-up)			475	mA	@ +25°C
Operable temperature range	-20		+70	°C	
Storage temperature range	-45		+95	°C	
Enclosure (see drawing) (LxWxH)	51x51x19 max.			mm	See drawing
Handling and Testing	In accordance with AXAN-011				www.axtal.com
Processing	In accordance with AXAN-012				www.axtal.com

Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Other stability and temperature range on request
3. Other supply voltage on request

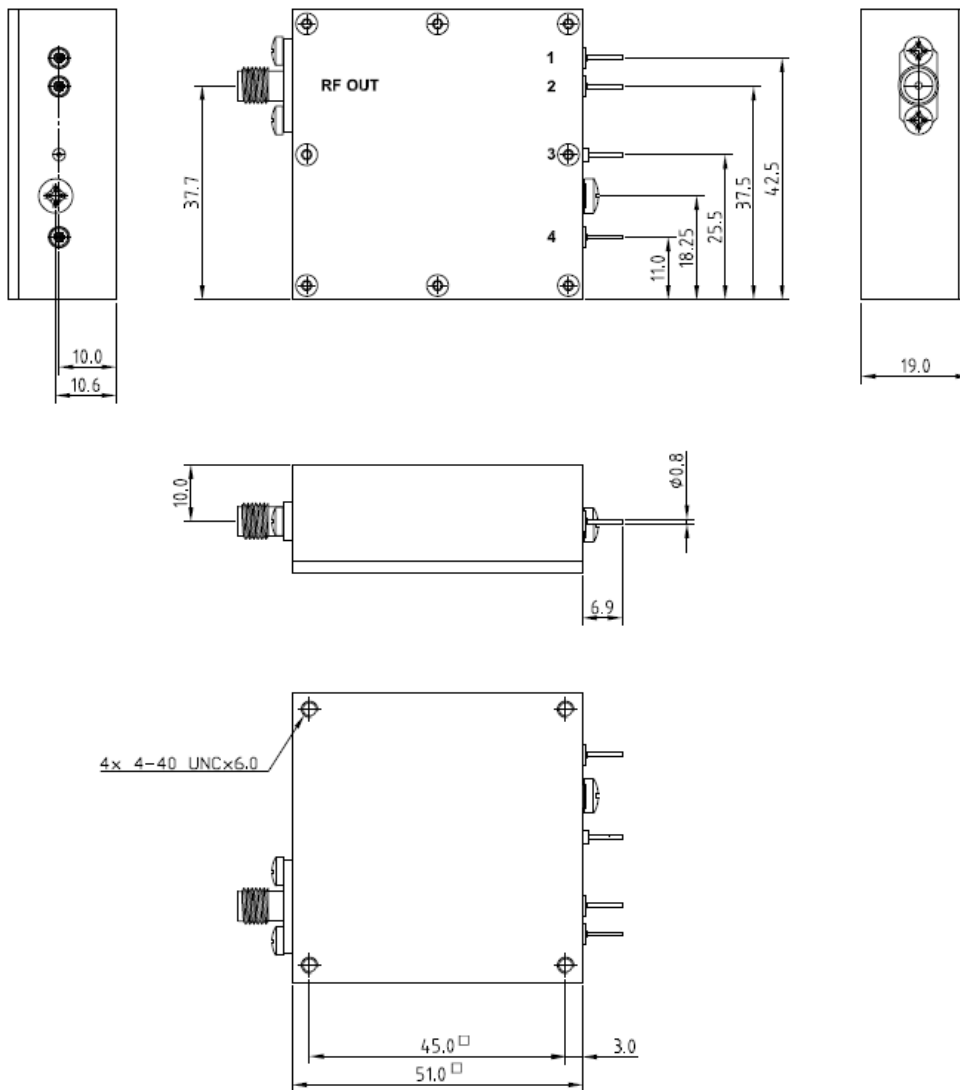
Phase noise options

Offset	100 MHz					120 MHz					Unit
	A	B	C	D	E	A	B	C	D	E	
10 Hz	-90	-95	-97	-100	-105	-85	-90	-95	-97	-100	dBc/Hz
100 Hz	-125	-130	-132	-135	-137	-118	-122	-125	-127	-130	dBc/Hz
1 kHz	-155	-158	-160	-162	-164	-148	-150	-153	-155	-157	dBc/Hz
10 kHz	-175	-176	-176	-176	-178	-160	-165	-168	-171	-175	dBc/Hz
≥100 kHz	-180	-180	-180	-180	-180	-180	-180	-180	-180	-180	dBc/Hz

Ordering Code:

Model (Specification)	Phase noise option	Frequency [MHz]
AXIOM5151	A	100.000

Enclosure drawing



Pin connections:

Pin #	Symbol	Function
1	V_S	Supply Voltage
2	N.C.	No Connection
3	GND	Ground
4	V_C	Control Voltage (EFC)
SMA	RF OUT	RF Output

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions
Sealing tests (if applicable)	2-17	4.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	4.6.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	Test Ea, 3 x per 6 axes 50G, 11 ms half-sine pulse
Vibration, sinusoidal*	2-6	4.6.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Endurance tests - ageing - extended aging		4.7.1 4.7.2	30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

*Endurance test

Other environmental conditions on request

Revision History

Rev.	Date [dd.mm.yy]	Remarks
1	05.02.2010	First edition
1.1	17.08.2010	Pin connections added
1.2	15.08.2011	Frequency change added, editorial changes
2	21.10.2011	Phase noise options added