

Specification	AXIOM75-27	Rev.: 2	Date: 2014-07-08
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Oscillator type: Low Phase Noise OCXO with Sine Wave Output

Parameter	min.	typ.	max.	Unit	Condition
Nominal frequency f_{nom}	10.000			MHz	
Frequency stability					
Initial tolerance @ +25°C			±200	ppb	@ $V_C = V_{REF}/2$
vs. operating temperature range			±50	ppb	ref. to $f(25^\circ\text{C})$
operating temperature range	-30		+75	°C	
vs. supply voltage variation			±5	ppb	$V_S \pm 5\%$
vs. load change			±5	ppb	$R_L \pm 10\%$
Long term (aging) per day		±1	±2	ppb	after 30 days operation
Long term (aging) per year			±50	ppb	after 30 days operation
Frequency adjustment range					
Electronic Frequency Control (EFC)	±0.5			ppm	
EFC voltage V_C	0		V_{REF}	V	
EFC slope ($\Delta f / \Delta V_C$)	Positive				
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Sine wave				
Load R_L	50			Ω	±10%
Output level	+4	+6	+10	dBm	
Harmonics			-30	dBc	
Spurious			-80	dBc	$f_{nom} \pm 1 \text{ MHz}$
Warm-up time			5	min	$\Delta f_{final}/f_0 < \pm 0.05 \text{ ppm}$
Start-up frequency @ -30°C	10.000			MHz	power-up 10 min after cooling down to -30°C
Phase noise		-105	-120	dBc/Hz	@ 1 Hz
		-135	-140	dBc/Hz	@ 10 Hz
		-153	-150	dBc/Hz	@ 100 Hz
		-160	-155	dBc/Hz	@ 1 kHz
		-160	-155	dBc/Hz	@ 10 kHz ~100 kHz
Short term stability (Allan Deviation) (Note 2)		$2 \cdot 10^{-12}$	$5 \cdot 10^{-12}$		$\tau = 1 \text{ sec}$
		$5 \cdot 10^{-12}$	$1 \cdot 10^{-11}$		$\tau = 100 \text{ sec}$
Reference voltage V_{REF} output		4.0		V	
Supply voltage V_S	4.75	5.0	5.25	V	
Current consumption (steady state)			250	mA	@ +25°C
Current consumption (warm-up)			600	mA	
Operable temperature range	-30		+75	°C	
Storage temperature range	-55		+85	°C	
Enclosure (see drawing) (LxWxH) (Note 6)	25.8x25.8x12.7 max.			mm	IEC 60679-3 CO 43
Pin length L	9.5	10	10.5		
Weight			10	g	
Handling and Testing	In accordance with AXAN-011				www.axtal.com
Processing	In accordance with AXAN-012				www.axtal.com

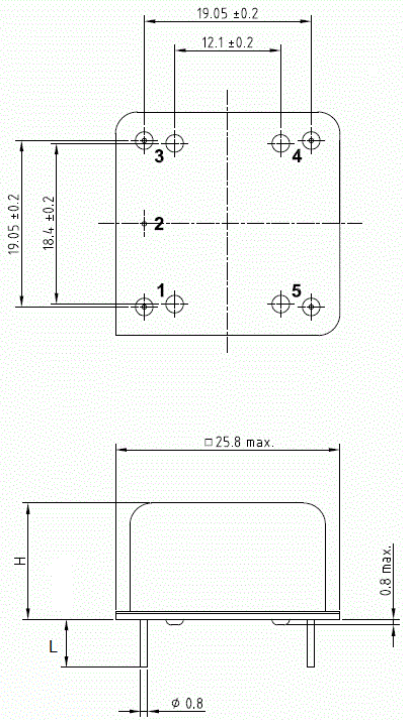
Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. 10 hours after power-on

Ordering Code:

Model (Specification)	Revision	Frequency [MHz]
AXIOM75-27	Rev.2	10.000

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	RF OUT	RF Output
2	GND	Ground
3	V _C	Control Voltage (EFC)
4	VREF	Reference Voltage
5	V _S	Supply Voltage

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 axes 100g, 6 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

Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	25.08.2011	First issue	BN	BN
2	D0	18.01.2012	Start-up @ -30°C added, Pin length fixed	BN	BN
2	D1	08.07.2014	Editorial changes, typical ADEV and PN values added	HH	HH

