

Datasheet
AXIOM55LN
Low Phase Noise OCXO with Sine Wave Output
 Equivalent to Oscilloquartz Model OCXO 8789

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	5		20	MHz	(Note 2)
Standard frequencies	5.000 / 10.000			MHz	(Note 2)
Frequency stability					
Initial tolerance @ +25°C			± 200	ppb	$V_C @ V_{REF}/2$
vs. operating temperature range	Option 1 & 2 See tables 1 & 2				Steady state
vs. supply voltage variation (pushing)			± 0.2	ppb	$V_S \pm 5\%$,
vs. load change (pulling)			± 0.2	ppb	$R_L \pm 10\%$
Long term (aging) per day (Note 3)			± 0.5	Ppb	After 30 days operation
Long term (aging) per year (Note 3)			± 70	Ppb	After 30 days operation
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 0.8			ppm	
EFC voltage V_C	0	$V_{REF}/2$	V_{REF}	V	
EFC slope ($\Delta f / \Delta V_C$)	positive				
EFC nonlinearity		± 5	± 10	%	
EFC input impedance	100			k Ω	
RF output					
Signal waveform	Sine wave				
Load R_L	50			Ω	± 10 %
Output level	+6	+8	+10	dBm	
Harmonics			-30	dBc	
Spurious			-75	dBc	$f_{NOM} \pm 1\text{MHz}$
Phase Noise max.		-105 -135 -150 -157 -162 -162	-100 -130 -150 -157 -162 -162	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 1 Hz @ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz
Warm-up time @ +25°C		3	5	min	$\Delta f_{final}/f_0 < \pm 0.1 \text{ ppm}$
Short term stability (Allen deviation)		1.10^{-12}			T = 1 s
Reference voltage V_{REF} output		10.0		V	
Supply voltage V_S	11.4	12.0	12.6	V	
Current consumption (steady state)			200	mA	@ +25°C
Current consumption (warm-up)			500	mA	
Enclosure (see drawing) (LxWxH)					
	51.0 x 51.0 x 19.0 max.			mm	
Weight			70	gram	
Packing	Palette				

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Please consult FCD-Tech for other frequencies
3. Lower aging on request

Datasheet
AXIOM55LN
Low Phase Noise OCXO with Sine Wave Output
 Equivalent to Oscilloquartz Model OCXO 8789

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	MHz	V_c to GND
Storage Temperature	-40	+125	°C	

Frequency stability vs. temperature

Option 1	Stability
	[ppb]
05	±5
10	±10
25	±25
50	±50

Table 1

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

Table 2

Standard: "1B" = -10 to +60°C

Frequency stability vs. temperature

Model	Option1 [Stability]	Option 2 (Temperature range)	Revision	Frequency [MHz]
AXIOM55LN	Table 1	Table 2	Rev.1	10.000

Example: AXIOM55LN-10-1B-Rev.1-10.000MHz

Environmental conditions

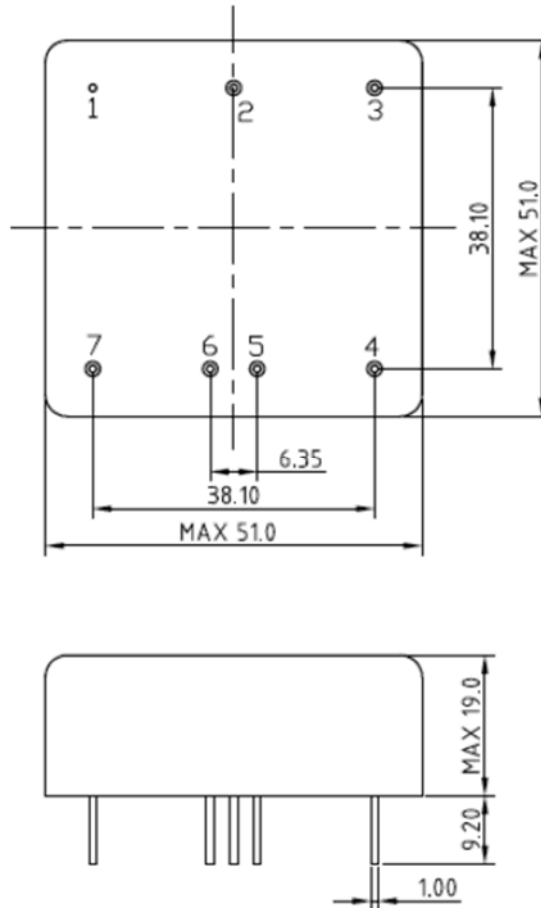
Test	IEC 60068 Part ...	IEC 60679-1 clause ...	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability	2-20	5.6.3	208H		3.6.52	Test Ta Method 1
Resistance to soldering heat	2-58		210F		3.6.48	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			108A			
- ageing		5.7.1			4.8.35	30 days @ 85°C, OCXO @25°C
- extended aging		5.7.2				1000h, 2000h, 8000h @85°C

Datasheet

AXIOM55LN

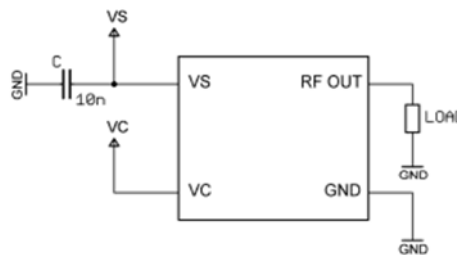
Low Phase Noise OCXO with Sine Wave Output
Equivalent to Oscilloquartz Model OCXO 8789

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	GND	Ground
2	V_{REF}	Reference voltage
3	V_c	Control Voltage (EFC)
4	N.C.	No Connection
5	N.C.	No Connection
6	RF OUT	RF Output
7	V_s	Supply Voltage



Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice. *Rev. 1 dated 14-01-2015*

FCD-Tech B.V.

P.O. Box 1183
1700 BD Heerhugowaard
Netherlands