OCXO 20X20
AXIOM 35ULN

www.matel-piezo.fr

Specification	AXIOM35ULN	Rev.: 01	Date: 2012-01-28

Oscillator type : Miniature Ultra Low Phase Noise OCXO

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	80		125	MHz	
Standard frequencies	100.000 / 120.000			MHz	
Frequency stability				ppm	
Initial tolerance at delivery		± 100	± 200	ppb	@+25°C @V_c @ VREF/2
vs. temperature in operating temperature range (steady state)			± 200 ± 100 ± 50 ± 25 ± 10	ppb ppb ppb ppb ppb	Option II = "200" Option II = "100" Option II = "50" Option II = "25" Option II = "10"
operating temperature range	-10		60	°C	Note 2
vs. supply voltage variation			± 10	ppb	V_S ± 5%
vs. load change			± 5	ppb	R_L ± 5%
Long term (aging) per day, after 30 days operation		± 5 ± 1	± 10 ± 2	ppb ppb	Option II="200", "100" Option II="50","25","10"
long term (aging) 1st year, after 30 days operation			± 200 ± 100	ppb ppb	Option II="200", "100" Option II="50","25","10"
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 1	± 2		ppm	
EFC voltage V_C	0		VREF	V	
EFC slope ($\Delta f / \Delta V_C$)	positive				
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Sine wave				
Load	50			Ω	± 10 %
Output level	+7			dBm	
Harmonics			-20	dBc	
Phase noise	See table below				Option I
Warm-up time			3	min	$\Delta f_{final}/f_0 < \pm 0.1$ ppm
Reference voltage VREF output		10.0		V	
Supply voltage V_S	11.4	12	12.6	V	
Current consumption (steady state)			150	mA	@ +25°C
Current consumption (warm-up)			300	mA	
Operable temperature range	-20		+70	°C	
Storage temperature range	-40		+85	°C	
Enclosure (see drawing) L x W x H	20.5x20.5x12 max.			mm	IEC 60679-3 CO 15
Weight			10	gram	
Handling and Processing	In accordance with AXAN-012				www.axtal.com
Environmental Conditions	In accordance with AXAN-013				www.axtal.com

Notes:

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

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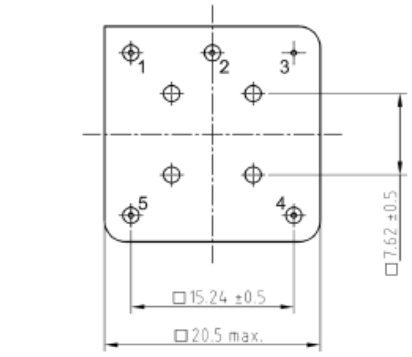
Phase Noise options I:

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	-150	-153	-155	-157	-158	-148	-150	-151	-153	-155	dBc/Hz
10 kHz	-160	-160	-160	-163	-165	-160	-160	-160	-161	-163	dBc/Hz
≥100 kHz	-170	-170	-170	-170	-170	-170	-175	-170	-170	-170	dBc/Hz

Ordering Code:

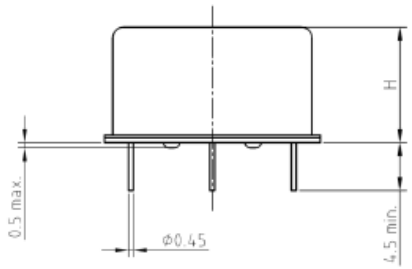
Model (Specification)	Phase Noise Option I	Stability Option II	Frequency [MHz]
AXIOM35ULN	A	25	100.000

Enclosure drawing



Pin connections

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

Other environmental conditions on request