

## Datasheet

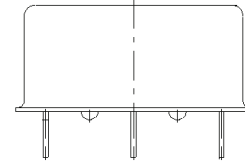
### AXIOM35ULN

### MINIATURE ULTRA LOW PHASE NOISE OCXO

## FEATURES

- Ultra Low Phase Noise OCXO up till  $-170$  dBc/Hz
- Thru hole package size 20.5 x 20.5 x 12 mm.
- Standard frequencies: 100.0 / 120.0 MHz
- Sine Wave output signal

20.5 x 20.5 x 12 mm max.



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		$\pm 100$	$\pm 200$	ppb	@+25°C @V <sub>C</sub> @ VREF/2
vs. operating temperature range (steady state)			$\pm 200$ $\pm 100$ $\pm 50$ $\pm 25$ $\pm 10$	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			$\pm 10$	ppb	V <sub>S</sub> $\pm$ 5%
vs. load change			$\pm 5$	ppb	R <sub>L</sub> $\pm$ 5%
Long term (aging) per day, after 30 days operation		$\pm 5$ $\pm 1$	$\pm 10$ $\pm 2$	ppb ppb	Option II="200", "100" Option II="50", "25", "10"
long term (aging) 1 <sup>st</sup> year, after 30 days operation			$\pm 200$ $\pm 100$	ppb ppb	Option II="200", "100" Option II="50", "25", "10"
Frequency adjustment range					
Electronic Frequency Control (EFC)	$\pm 1$	$\pm 2$		ppm	
EFC voltage V <sub>C</sub>	0		VREF	V	
EFC slope (Df / DV <sub>C</sub> )		positive			
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Sine wave				
Load	50			Ω	$\pm 10$ %
Output level	+7			dBm	
Harmonics				-20	dBc
Phase noise	See table below				Option I
Warm-up time				3	min
					Df <sub>final</sub> /f <sub>0</sub> $\leq$ $\pm 0.1$ ppm
Reference voltage VREF output		10.0		V	
Supply voltage V <sub>S</sub>	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

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#### 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

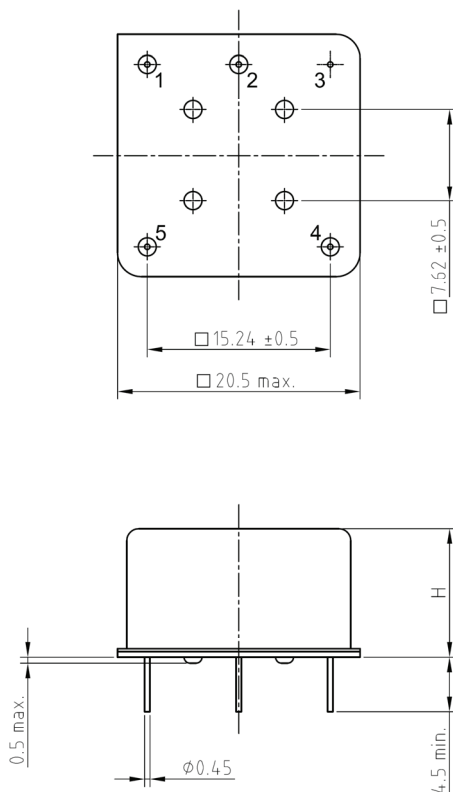
#### Phase Noise options I:

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

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#### 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	2-20	4.6.3	Test Ta (235 ± 5)°C Method 1
Resistance to soldering heat	2-58		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		4.7.1	30 days @ 85°C, OCXO @25°C
- extended aging		4.7.2	1000h, 2000h, 8000h @85°C

Other environmental conditions on request