

Datasheet

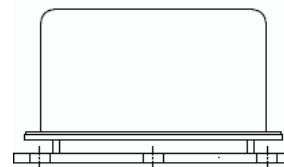
AXIOM10HP

HIGH PERFORMANCE OCXO IN SMD PACKAGE

FEATURES

- High Performance
- SMD holder
- Ultra Low Phase Noise

25.6 x 22.2 x 14 mm max.



Parameter	min.	typ.	max.	Unit	Condition
Nominal frequency		10.000		MHz	
Frequency stability				ppm	
Initial tolerance		± 20	± 50	ppb	@V <sub>C</sub> = V <sub>REF</sub> /2 ± 10%
vs. operating temperature range			± 5	ppb	steady state
operating temperature range	-10		+60	°C	
vs. supply voltage variation		± 0.5		ppb	
vs. load change			± 0.5	ppb	
long term (aging) per day			± 0.5	ppb/day	after 30 days operation
long term (aging) 1 <sup>st</sup> year			± 30	ppb	after 30 days operation
long term (aging) per 15 years after			± 500	ppb	
Frequency adjustment range					
Electronic Frequency Control (EFC)	± 1			ppm	
EFC voltage V <sub>C</sub>	0	2.5	V <sub>REF</sub>	V	
EFC slope (Df / DV <sub>C</sub> )		Positive			
EFC input impedance	100			kΩ	
RF output					
Signal waveform		Sine wave			
Load		50		Ω	± 10 %
Output level	+5		+10	dBm	
Harmonics			-20	dBc	
Warm-up time @25°C		5	10	min	Df <sub>final</sub> /f <sub>0</sub> < ±10 ppb
Phase noise			-100	dBc/Hz	@ 1Hz
			-130	dBc/Hz	@ 10 Hz
			-145	dBc/Hz	@ 100 Hz
			-150	dBc/Hz	@ 1 kHz
			-150	dBc/Hz	@ 10 kHz ~ 100 kHz
Short term stability (Allan deviation)		5·10 <sup>-12</sup>			t = 1 s
		1·10 <sup>-11</sup>			t = 10 s
			1·10 <sup>-10</sup>		t = 100 s
Reference Voltage Output V <sub>REF</sub>		5.0		V	
Oven alarm output (pin 2)		LOW = alarm (not stable) HIGH = ready			0 ... 0.4 V 2.4 ... 5 V
Oscillator Enable input (pin 6)		LOW = Oscillator OFF HIGH = Oscillator ON			HCMOS compatible
Supply voltage V <sub>s</sub>	11.4	12	12.6	V	
Current consumption steady state			100	mA	@ +25°C
Current consumption (warm-up)			350	mA	
Storage temperature range	-40		+85	°C	
Enclosure (see drawing)		25.6x22.2x14 max.		mm	IEC 61837 CO 28
Weight			10	gram	
Packing		Tape & reel			IEC 60286-3
ESD Sensitivity	1500			V	HBM IEC 61000-4-2

FCD-Tech B.V.

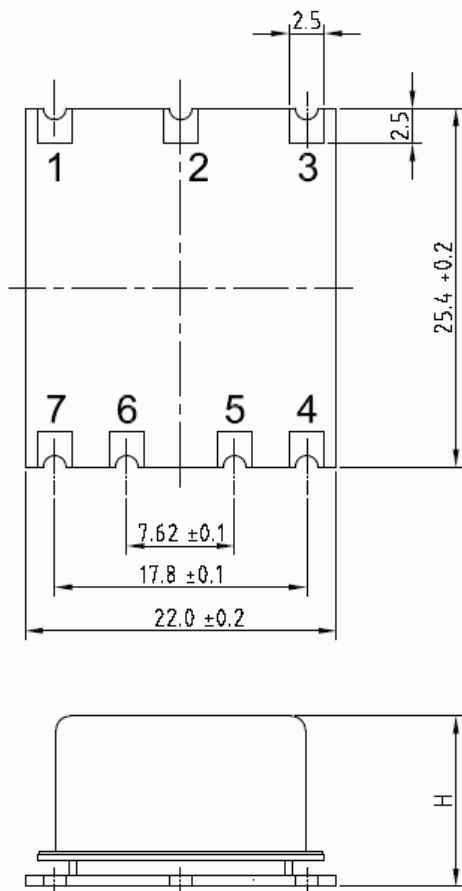
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Enclosure drawing:



Pin connections

Pin #	Symbol	Function
1	RF OUT	RF Output
2	OA	Oven Alarm Output
3	GND	Ground
4	V <sub>REF</sub>	Reference Voltage
5	V <sub>C</sub>	Control Voltage (EFC)
6	OE	Oscillator Enable Input
7	V <sub>S</sub>	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	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

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