

Datasheet

AXIOM100

ULTRA HIGH STABILITY DOUBLE OVEN OCXO (DOCXO)

FEATURES

- Ultra High Stability till +/- 0.1 ppb over temperature range
- Double Oven OCXO
- Sinewave RF Output
- Metal holder 51 x 51 x 20.1 mm max.

51 x 51 x 20.1 mm max.



Parameter	min.	typ.	max.	Unit	Condition
<b>Nominal frequencies</b>	5.000 / 10.000			MHz	
<b>Frequency stability</b>					
Initial tolerance			± 100	ppb	@+25°C, @V <sub>C</sub> =2.5 V
vs. operating temperature range (steady state)			± 0.5	ppb	Option I = "05"
			± 0.2	ppb	Option I = "02"
			± 0.1	ppb	Option I = "01"
vs. supply voltage variation			± 0.5	ppb	V <sub>s</sub> ± 5%
vs. load change		± 0.1		ppb	R <sub>L</sub> ± 10%
Long term stability per day		± 0.1		ppb/day	Note 2
Long term stability (aging) per year		± 20	± 50	ppb/year	Note 2
<b>Frequency adjustment range</b>					
Electronic Frequency Control (EFC)	± 1		± 2	ppm	
EFC voltage V <sub>C</sub>	0	2.5	VREF	V	
EFC slope (Df/DV <sub>C</sub> )	positive				
EFC input impedance	100			kΩ	
<b>RF output</b>					
Signal waveform	Sine wave				
Output level	+7		+10	dBm	@ 50 Ω
Harmonics and subharmonics			-35	dBc	
Spurious			-80	dBc	0 ~ 100 MHz
Phase noise @ 10.000 MHz		-100	-95	dBc/Hz	@ 1 Hz
		-130	-125	dBc/Hz	@ 10 Hz
		-145	-142	dBc/Hz	@ 100 Hz
			-145	dBc/Hz	@ 1 kHz
			-145	dBc/Hz	@ 10 kHz
			-145	dBc/Hz	@ 100 kHz
Warm-up time @ +25°C			7	Min	Df(1h)/f <sub>0</sub> < ± 20 ppb
Reference voltage output V <sub>REF</sub>		5.0		V	Load ≥ 10 kΩ
Supply voltage V <sub>S</sub>	11.4	12	12.6	V	
Current consumption (steady state)		200	300	mA	@ +25°C
Current consumption (warm-up)		500	1000	mA	
Operating temperature range	0		+50	°C	Note 3
Operable temperature range	-10		+80	°C	
Storage temperature range	-55		+105	°C	
Enclosure (see drawing) L x W x H	51 x 51 x 20.1 max.			mm	
Weight			100	gram	
RoHS	Compliant				

Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. after 30 days of continuous operation
3. Other operating temperature ranges on request

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**Datasheet**

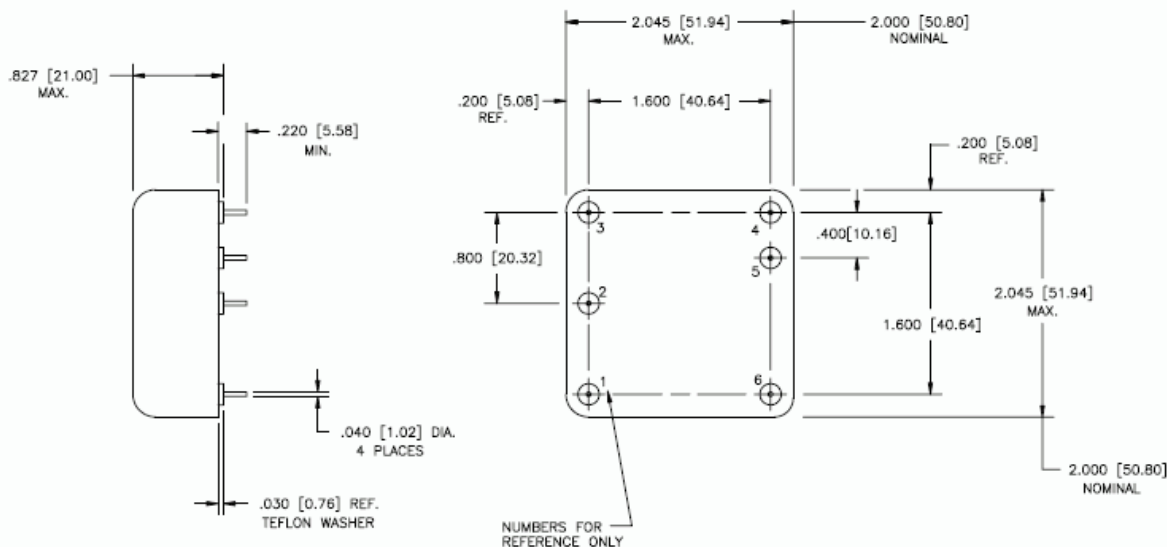
**AXIOM100**

**ULTRA HIGH STABILITY DOUBLE OVEN OCXO (DOCXO)**

**Ordering Code:**

Model (Specification)	Option I	Frequency [MHz]
AXIOM100	02	10.000

**Enclosure drawing**



**Pin connections:**

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

Test	IEC 60068-2 Part ...	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810E Method	MIL-PRF-55310D Clause	Test conditions
Sealing tests (if applicable)	2-17	4.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability	2-20	4.6.3	208H		3.6.52	Test Ta (235 ± 5)°C Method 1
Resistance to soldering heat	2-58		210F		3.6.48	Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axes 50g, 5 ms half-sine pulse
Vibration, sinusoidal*	2-6	4.6.7	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axes, 10 Hz ~ 55 Hz 0,37 mm; 55 Hz ~ 200 Hz, 5 g
Vibration during operation	2-6	4.6.7	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Sinusoidal: 1 g , 5 Hz ~ 100 Hz plus Random: 5 Hz ~ 350 Hz: 0.015 g <sup>2</sup> /Hz, 350 Hz ~ 500 Hz: -6 dB/octave, equivalent to 2.6 g rms
Endurance tests			108A			
- ageing		4.7.1			4.8.35	30 days @ 85°C, OCXO @25°C
- extended aging		4.7.2				1000h, 2000h, 8000h @85°C

\*non-operating, endurance

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