

Specification	AXIOM40/45HS	Rev.: 1	Date: 2018-11-06
----------------------	---------------------	---------	------------------

Oscillator type: Ultra-High Stability (D)OCXO in Eurocase Package with multiple customizable options

Parameter	min.	typ.	max.	Unit	Condition
Standard frequencies (Note 2)	10.000			MHz	
Frequency stability					
Initial tolerance at delivery			±100	ppb	@ +25°C
vs. operating temperature range	See table 1				steady state
vs. supply voltage variation (pushing)			±0.3	ppb	V _S ±5%
vs. load change (pulling)			±0.3	ppb	R _L ±5%
Holdover	See table 2				
Long term (aging) per day			±0.2	ppb	after 30 days operation
Long term (aging) 1 st year			±30	ppb	after 30 days operation
Long term (aging) 10 years			±200	ppb	after 30 days operation
Frequency adjustment range					
Options (customized)	Fixed Frequency Electronic Frequency Control (EFC) Digital Frequency Control (DFC)				SPI or IIC (16 Bit Res.)
RF output					
Signal waveform	AXIOM45	AXIOM40			
	Sine wave	LV/HCMOS			
Load R _L	50 Ω	15 pF			
Output level	5 ~ 9 dBm	-			
Warm-up time @ +25°C		3	5	min	Δf _{final} /f ₀ < ±0.1 ppm
Phase noise			-90 -120 -140 -150 -155 -155	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 1 Hz @ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz
Short-term stability (Allan deviation)			5·10 ⁻¹²		τ = 1 s
G-Sensitivity	Optional <0.5			ppb/g	
Reference voltage VREF output	Optional			V	
Supply voltage V_S	4.75 11.4	5.0 12.0	5.25 12.6	V V	
Current consumption (steady state)			250 150	mA mA	V _S = 5 V V _S = 12 V
Current consumption (warm-up)			600 350	mA mA	V _S = 5 V V _S = 12 V
Enclosure (see drawing) (LxWxH)	36.1x27.2x16 max.			mm	IEC 60679-3 CO 08
Weight			25	g	
Packing	Palette				

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other frequencies on request

Frequency stability vs. temperature

Options	Stability [ppb]
05	±0.05
10	±0.1
20	±0.2
40	±0.4

Temperature ranges	Availability			
	05	10	20	40
0°C to +70°C	X	X	X	X
-20°C to +70°C	X	X	X	X
-40°C to +80°C	-	X	X	X

Table 1

Holdover

Options	Holdover
H1	1 µs/8 hours
H2	2 µs/8 hours
H3	3 µs/24 hours
H8	8 µs/24 hours

Table 2

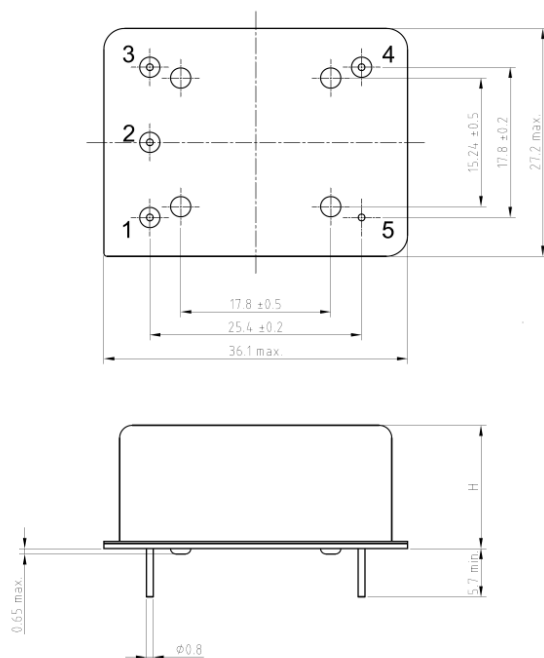
Ordering Code

Model	Customer Number*	Revision	Frequency [MHz]
AXIOM40/45HS	X	Rev.1	10.000

Example: AXIOM45HS-X_Rev.1 – 10.000 MHz

*P/N will be assigned with first order and separate datasheet for customized model will be created.

Enclosure drawing



Pin connections

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

Note: Depending on options 6 pins with different connections may be present

Handling and Testing

Parameter	Procedure		Source
Handling and Testing	Application Note AXAN-011		www.axtal.com
Processing	Application Note AXAN-012		www.axtal.com
Parameter	Procedure		Condition
Electrostatic discharge (ESD)			
THD devices	IEC60749-26	HBM	2000 V
SMD devices	IEC60749-27	MM	200 V
Washable	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
RoHS- Compliant	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

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 Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta Method 1 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 - ageing - extended aging		5.7.1 5.7.2	108A		4.8.35	30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

Other environmental conditions on request

Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice.

Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	06.11.2018	First issue	HH	HH