

Specification	AXRB1031H	Rev.: 1	Date: 2022-09-14
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Oscillator type: Miniature Rubidium Oscillator in 50 x 50 mm Package

Features:

- Miniature Rubidium Oscillator
- Compact 50 x 50 mm Package (OCXO compatible)
- Low cost allows OCXO substitution
- Low power consumption <6 W Steady-state
- RS-232 Communication
- Replacement for Microsemi SA.3Xm
- Applications: UMTS, LTE, 5G, CDMA, WiMAX etc.
- Equivalent to ELECSPN XHTF1031H



Ordering Code

Model	Revision	Frequency [MHz]
AXRB1031H	Rev.1	10.000

Example: AXRB1031H_Rev.1 – 10.000 MHz

Parameter	min.	typ.	max.	Unit	Condition
Nominal output frequency	10.000			MHz	
Frequency stability					
Initial tolerance at delivery @ +25°C			±0.05	ppb	
vs. operating temperature range			±0.80	ppb	steady state
Long term (aging) per day			±0.005	ppb	
Long term (aging) per month			±0.05	ppb	
Retrace @ +25°C			±0.02	ppb	1 h after 24 hrs OFF
Frequency adjustment range					
Electronic Frequency Control (EFC)	±1	±2		ppb	
EFC voltage V _c	0		5	V	
EFC slope (Δf / ΔV _c)	Positive				
EFC input impedance	10			kΩ	
RF output					
Signal waveform	LVCMOS				
Load R _L	15			pF	
Phase noise		-95 -125 -135 -140		dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz
Short-term stability (ADEV)			5·10 ⁻¹¹ 2·10 ⁻¹¹ 7·10 ⁻¹² 3·10 ⁻¹²		@ τ = 1 sec @ τ = 10 sec @ τ = 100 sec @ τ = 1000 sec
Warm-up time @ +25°C			7	min	Time to lock
Lock Detect		0	1.5	V	Locked
	3.5	5		V	Not locked
Supply voltage V_s (Note 2)	4.9	5.0	5.1	V	
Power consumption (steady state)			6	W	
Power consumption (warm-up)			18	W	
Operating temperature range	-5		+60	°C	
Enclosure (see drawing) (WxDxH)	50.8x50.8x25			mm	
Drawing number	AXZ10.01123.02				
Weight			200	g	
MTBF	100,000			hrs	

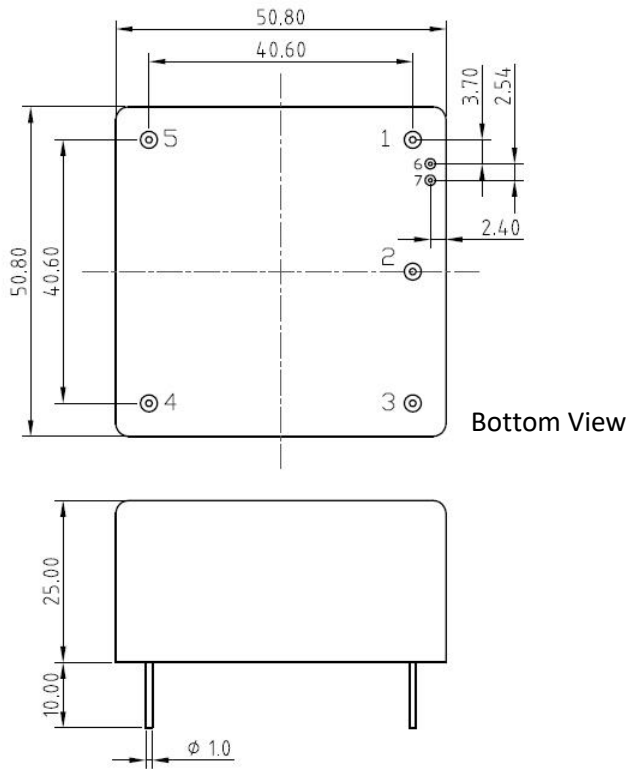
Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Please consult factory for other (higher) supply voltage

Absolute Maximum Ratings

Parameter	min.	max.	Unit	Condition
Supply Voltage V _s	-0.5	V _s + 10%	V	V _s to GND
Control Voltage V _c	-0.5	7	V	V _c to GND
Storage Temperature	-55	+85	°C	

Enclosure drawing



Pin connections:

Pin #	Symbol	Function
1	V _c	Control Voltage (EFC)
2	LD	Lock Detect
3	RF OUT	10 MHz Output
4	GND	Ground
5	V _s	Supply Voltage
6	TX	Serial Transmit RS-232
7	RX	Serial Receive RS-232

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		

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	08.05.2019	First issue	JH	HH
1	D1	14.09.2022	Note "Bottom View" added to drawing	HH	HH