Specification	AXIS50	Rev.: 1	Date: 2014-04-05

Oscillator type: Low Phase Noise VHF/UHF VCXO (no PLL) with LVPECL or Sine Wave Output

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	60		400	MHz	
Standard frequencies	60 / 93.333 / 182 / 186.667 213.3 / 311.040 / 400.000			MHz	
Frequency stability				ppm	
Initial tolerance			±5	ppm	
vs. operating temperature range			±10	ppm	(Note 2)
vs. supply voltage variation			±0.1	ppm	V_S ±5%
vs. load change			±0.1	ppm	Load ±5%
Long term (aging) per year			±2	ppm	@ 40°C
Long term (aging) over 10 years			±10	ppm	@ 40°C
Frequency adjustment range					
Electronic Frequency Control (EFC)	±15			ppm	(Note 3)
EFC voltage V_C	0.15		3.15	V	
EFC slope ($\Delta f / \Delta V_C$)	positive				
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Sine Wave LVPECL Complementary				Option 1 = "S" Option 1 = "L"
Output level (Option 1 = "S")	0			dBm	R_L = 50 Ω (Note 4)
Harmonics (Option 1 = "S")			-30	dBc	
Sub-harmonics (Note 5)			-40	dBc	
Output Levels (Option 1 = "L") HIGH (V_{OH}) LOW (V_{OL})	 2.215 1.470	 2.345 1.595	 2.420 1.745	 V V	 R_L = 50 Ω to V_S - 2 V (Note 6)
Supply voltage V_S	3.15 4.75	3.3 5.0	3.45 5.25	V V	Option 2 = "33" Option 2 = "50"
Current consumption (steady state)			40	mA	(Note 7)
Operating temperature range	-20		+70	°C	
Enclosure (see drawing) (LxWxH)	20.5x20.5x12.5 max.			mm	IEC 60679-3 CO 41
Weight			8	g	
Packing	Palette				IEC 60286-3

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other stabilities over temperature on request
3. Wider tuning range on request
4. Higher output level on request
5. For frequencies above 100 MHz sub-harmonics may be present. Please consult factory
6. Output levels vary 1:1 with V_S
7. Current consumption depends on frequency, supply voltage and output option

Absolute Maximum Ratings

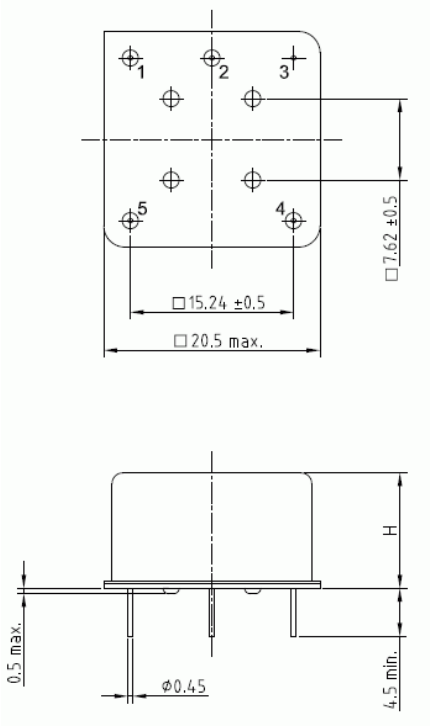
Parameter	min.	max.	Unit	Condition
Supply Voltage V_S	-0.5	V_S + 10%	V	V_S to GND
Control Voltage V_C	-0.5	15	V	V_C to GND
Storage Temperature	-55	+125	°C	

Ordering Code

Model	Option 1 [RF output]	Option 2 [Supply Voltage]	Revision	Frequency [MHz]
AXIS50	S or L	50	Rev.1	350.000

Example: AXIS50-S-50_Rev.1 – 350.000 MHz

Enclosure drawing



Pin connections:

Pin #	Symbol	Function
1	N.C. $\overline{Q}$	No Connection (Option S) RF Output ($\overline{Q}$) (Option L)
2	RF OUT	RF Output (Q)
3	GND	Ground
4	V_C	Control Voltage (EFC)
5	V_S	Supply Voltage

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	✖ Yes ☐ No		
RoHS compliant	✖ Yes ☐ 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	05.04.2014	First issue – Replaces AXIS50-11	HH	HH