

Specification	AXIS145	Rev.: 2	Date: 2014-04-05
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Oscillator type: SMD VCXO in CO27 package

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	10		50	MHz	Sine wave
	1		800	MHz	HCMOS, PECL, LVDS
Frequency stability				ppm	
Overall stability				ppm	
vs. operating temperature range	±10 to ±100 See tables 1 & 2			ppm	Option 3 & 4
Long term (aging) per year			±3	ppm	
Frequency adjustment range					
Electronic Frequency Control (EFC)	±50			ppm	Option 5 = "5"
	±100			ppm	Option 5 = "10"
	±150			ppm	Option 5 = "15"
EFC voltage V_c	0.15	1.65	3.15	V	Option 1 = "3"
	0	2.5	5	V	Option 1 = "5"
EFC slope ($\Delta f / \Delta V_c$)	Positive Negative				Option 6 = blank Option 6 = "N" (Note 2)
EFC input impedance	100			k Ω	
RF output					
Signal waveform	Sine wave HCMOS PECL LVDS				Option 2 = "S" Option 2 = "H" Option 2 = "P" Option 2 = "L"
Load	50 Ω 15 pF 50 Ω + Bias				Option 2 = "S" Option 2 = "H" Option 2 = "P" or "L"
Amplitude		0		dBm	Option 2 = "S" / 3.3 V
		+10		dBm	Option 2 = "S" / 5.0 V
	According to relevant Logic Standard				Option 2 = "H", "P", "L"
Jitter (PECL & LVDS versions only)			1.0	ps	12 kHz ~ 20 MHz
Supply voltage V_s	3.15	3.3	3.45	V	Option 1 = "3"
	4.75	5.0	5.25	V	Option 1 = "5"
Current consumption (Note 3)	15 ~ 70			mA	Option 2 = "S"
	15 ~ 100			mA	Option 2 = "H"
	25 ~ 100			mA	Option 2 = "P", "L"
Enclosure (see drawing) (LxWxH)	14.4x9.5x6.0 max.			mm	IEC 61837 CO 27
Weight			2	g	
Packing	Tape & Reel				IEC 60286-3

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Negative slope only available for HCMOS Output version (Option 2 = "H")
3. Depending on frequency and supply voltage
4. All combinations of options might not be available. Please consult factory

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	6	V	V_C to GND
Storage Temperature	-45	+90	°C	

Frequency stability vs. temperature

Option 3	Stability [ppm]	Lower Temperature		Upper Temperature	
		Option 4	T [°C]	Option 4	T [°C]
10	±10	0	0	A	+50
15	±15	1	-10	B	+60
20	±20	2	-20	C	+70
30	±30	3	-30	D	+75
50	±50	4	-40	E	+80
100	±100			F	+85

Table 1

Ordering Code

Model	Option 1 [Supply Voltage]	Option 2 [RF output]	Option 3 [Stability]	Option 4 [Temperature range]
AXIS145	3 or 5	S, H, P, L	Table 1	Table 2

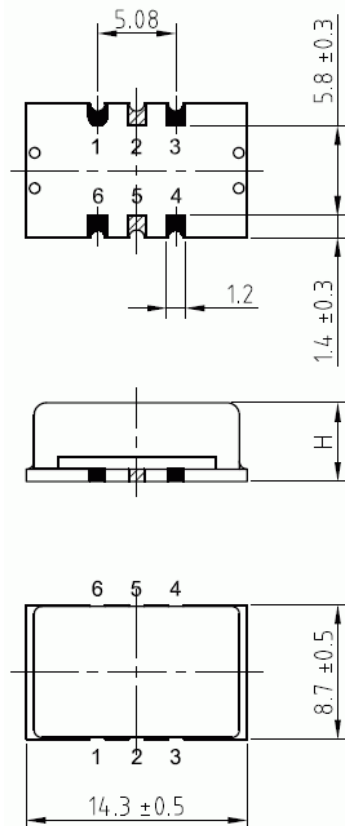
Option 5 [Tuning Range]	Option 6 [Tuning slope]	Revision	Frequency [MHz]
5, 10, 15	_ or "N"	Rev.2	10.000

Example: AXIS145-5-S-10-1B-N_Rev.2 – 10.000 MHz

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
RoHS compliant	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Enclosure drawing



Pin connections

Sine wave and HCMOS Output:

Pin #	Symbol	Function
1	V _C	Voltage Control (EFC)
2	N.C.	No Connection
3	GND	Ground
4	RF OUT	RF Output
5	N.C.	No Connection
6	V _S	Supply Voltage

PECL and LVDS Output:

Pin #	Symbol	Function
1	V _C	Voltage Control (EFC)
2	N.C.	No Connection
3	GND	Ground
4	RF OUT	RF Output
5	Comp OUT	Complementary RF Output
6	V _S	Supply Voltage

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	2-20	5.6.3	208H		3.6.52	Test Ta Method 1
Resistance to soldering heat	2-58		210F		3.6.48	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			108A			
- ageing		5.7.1			4.8.35	30 days @ 85°C, OCXO @25°C
- extended aging		5.7.2				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
2	D1	12.10.2009	Editorial changes	BN	BN
2	D2	05.04.2014	Environmental conditions updated, editorial changes	HH	HH