

<b>Specification</b>	<b>AXIS135M</b>	Rev.: 1	Date: 2014-04-05
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**Oscillator type: VCXO in DIL8 package**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	10		50	MHz	Sine wave
	1		150	MHz	HCMOS
<b>Frequency stability</b>				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	
<b>Frequency adjustment range</b>					
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				
EFC input impedance	100			k $\Omega$	
<b>RF output</b>					
Signal waveform	Sine wave HCMOS				Option 2 = "S" Option 2 = "H"
Load	50 $\Omega$ 15 pF				Option 2 = "S" Option 2 = "H"
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"
<b>Supply voltage <math>V_S</math></b>	3.15	3.3	3.45	V	Option 1 = "3"
	4.75	5.0	5.25	V	Option 1 = "5"
<b>Current consumption (Note 2)</b>	15 ~ 70			mA	Option 2 = "S"
	15 ~ 100			mA	Option 2 = "H"
<b>Enclosure (see drawing) (LxWxH)</b>	12.7x12.7x5.1 max.			mm	IEC 60679-3 CO 21
<b>Weight</b>			4	g	
<b>Packing</b>	Tube or Pallet				IEC 60286-3

**Notes:**

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Depending on frequency and supply voltage
3. 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	-55	+105	°C	

## Frequency stability vs. temperature

Option 3	Stability [ppm]
10	±10
15	±15
20	±20
30	±30
50	±50
100	±100

Table 1

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

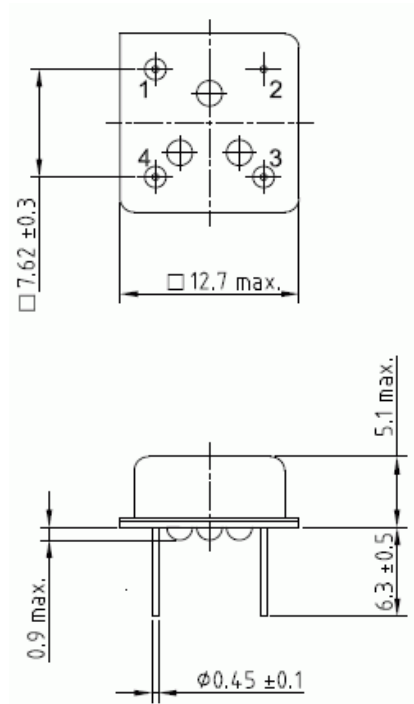
Table 2

## Ordering Code

Model	Option 1 [Supply Voltage]	Option 2 [RF output]	Option 3 [Stability]	Option 4 [Temperature range]	Option 5 [Tuning Range]	Revision	Frequency [MHz]
AXIS135M	3 or 5	S or H	Table 1	Table 2	5, 10, 15	Rev.1	10.000

Example: AXIS135M-5-S-10-1B\_Rev.1 – 10.000 MHz

## Enclosure drawing



## Pin connections

Pin #	Symbol	Function
1	V <sub>C</sub>	Control Voltage (EFC)
2	GND	Ground
3	RF OUT	RF Output
4	V <sub>S</sub>	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	<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	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 <sub>1</sub> Method 2 Test Td <sub>2</sub> 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, OXCO @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	12.12.2012	First issue	BN	BN
1	D1	05.04.2014	Environmental conditions updated, editorial changes	HH	HH