Specification	AXE50	Rev.: 1	Date: 2014-05-26

Oscillator type: Crystal Oscillator (SPXO) in double-sealed DIL14/14 package

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	1		150	MHz	
Frequency stability					
Overall stability (Note 2)	±10 to ±100 See table 1			ppm	Option 2
vs. operating temperature range	See table 2				Option 3
Long term (aging) per year			±2	ppm	@ 40°C
RF output					
Signal waveform	HCMOS				
Load	15			pF	
Rise & decay time			5	ns	
Symmetry (duty cycle)	40		60	%	@ $V_S/2$
Start-up time			10	ms	
Supply voltage V_S	3.15 4.75	3.3 5.0	3.45 5.25	V V	Option 1 = “33” Option 1 = ”50”
Current consumption (steady state) (Note 3)			45 25	mA mA	Option 1 = “33” Option 1 = ”50”
Enclosure (see drawing) (LxWxH)	20.7x13.1x7.5 max.			mm	IEC 60679-3 CO 02
Weight			5	g	
Packing	Palette or Tube				IEC 60286-3

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Other stabilities on request
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
Storage Temperature	-55	+125	°C	

Overall stability and temperature range

Option 2	Stability [ppm]
10	±10
15	±15
25	±25
50	±50
100	±100

Table 1

Lower Temperature			Upper Temperature	
Option 3	T [°C]		Option 3	T [°C]
0	0		A	+50
1	-10		B	+60
2	-20		C	+70
3	-30		D	+75
4	-40		E	+80
5	-55		F	+85
			G	+105
			H	+125

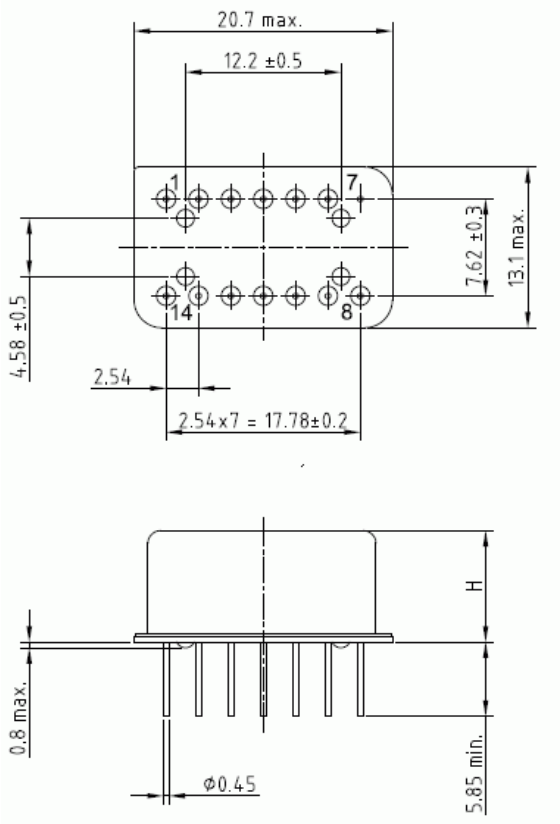
Table 2

Ordering Code

Model	Option 1 [Supply Voltage]	Option 2 [Stability]	Option 3 [Temperature range]	Revision	Frequency [MHz]
AXE50	33 or 50	Table 1	Table 2	Rev.1	10.000

Example: AXE50-50-25-2C_Rev.1 – 10.000 MHz

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	N.C.	No Connection
7	GND	Ground
8	RF OUT	RF Output
14	Vs	Supply Voltage
All others	N.C.	No Connection

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	26.05.2014	First edition AXE50	BN	BN