AXTAL ADVANCED XTAL PRODUCTS

Specification	AXIS20	Issue: 04	Date: 2005-07-15

Oscillator type : PECL VCXO

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	100		212.5	MHz	
Standard frequencies	125.000/155.520			MHz	
Frequency stability overall	-20		20	ppm	See Note 1
vs. temperature in operating temperature range (steady state)				ppm	Included in overall frequency stability
Operating temperature range	0		70	°C	See Note 2
vs. supply voltage variation				ppm	Included in overall
vs. load change				ppm	Included in overall
long term (aging) per year	-3		3	ppm/year	First year @ 40°C
Frequency adjustment range					
Electronic Frequency Control (EFC) range	± 50			ppm	
EFC voltage V_C	0.3 0.25		3.0 4.75	V V	Option = "33" Option = "50"
EFC slope ($\Delta f / \Delta V_C$)	positive				
EFC linearity				%	
EFC input impedance	10			kΩ	
RF output					
Signal waveform	LVPECL PECL				Option = "33" Option = "50"
Load to Vs – 2V	50			Ω	
Output voltage HIGH U_{OH} LOW U_{OL}	V_S-1.025		 V_S-1.62	V V	
Rise & decay time			1	ns	
Symmetry (duty cycle)	40		60	%	
Start-up time			10	ms	
Jitter (R.M.S.)			25	ps	12 kHz ~ 20 MHz
Supply voltage V_S	3.13 4.75	3.3 5.0	3.47 5.25	V V	Option = "33" Option = "50"
Current consumption (steady state)			80 120	mA mA	Option = "33" Option = "50"
Operable temperature range	-45		+90	°C	
Storage temperature range	-45		+105	°C	
Enclosure (see drawing)	14.4x9.5x6 max			mm	IEC 60679-3 or 61837
Weight			3	gram	
Packing	Tape & reel				IEC 60286-3
ESD Sensitivity	1500			V	HBM as in IEC 61000-4-2

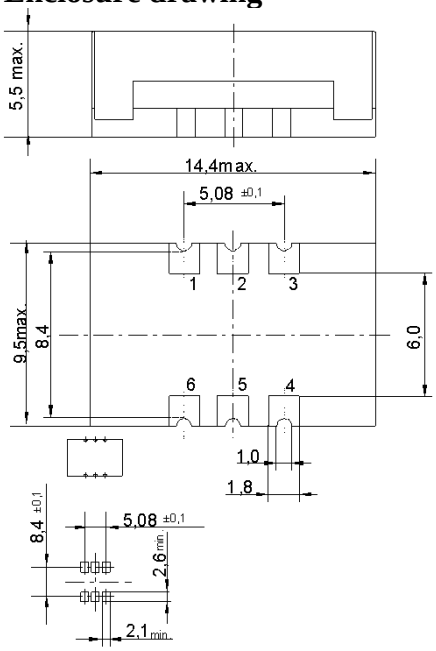
Notes:

1. Overall frequency stability = stability vs. temperature + vs. supply voltage variation + vs. load change
2. Extended operating temperature range –40°C to +85°C optionally available
3. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated

Ordering Code:

Model (Specification)	Option	Frequency [MHz]
AXIS20	33	155.520

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	VC	Control Voltage (EFC)
2	N.C.	No Connection
3	GND	Ground
4	RF OUT	RF Output
5	RF OUT2	complementary RF Output
6	Vs	Supply Voltage

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions
Visual inspection, dimensions		4.3	Enclosure styles as in IEC 60679-3 or 61837, if applicable
Sealing tests (if applicable)	2-17	4.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	4.6.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Bump*	2-29	4.6.6	Test Eb, 4000 bumps per Axes, 40g, 6 ms
Free fall*	2-32	4.6.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal*	2-6	4.6.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Rapid change of temperature	2-14	4.6.5	Test Na, 10 cycles at extremes of operating temperature range
Dry heat	2-2	4.6.14	Test Ba, 16 h at upper temperature indicated by climatic category
Damp heat, cyclic*	2-30	4.6.15	Test Db variant 1 severity b), 55°C/95% r.H., 6 cycles
Cold	2-1	4.6.16	Test Aa, 2 h at lower temperature indicated by climatic category
Climatic sequence*	1-7	4.6.17	Sequence of 4.6.14, 4.6.15 (1st cycle), 4.6.16, 4.6.15 (5 cycles)
Damp heat, steady state*	2-3	4.6.18	Test Ca, 56 days
Endurance tests - ageing - extended aging		 4.7.1 4.7.2	 30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C