AXTAL ADVANCED XTAL PRODUCTS

Specification	AXLE20-12	Issue: 03	Date: 2005-07-15

Oscillator type : VHF TCXO, low noise

Parameter	min.	typ.	max.	Unit	Condition
Frequency range				MHz	
Standard frequencies		100		MHz	Other frequencies on request
Frequency stability				ppm	
Initial tolerance		± 2		ppm	@+25°C
vs. temperature in operating temperature range (steady state)	-3,0		3,0	ppm	
Operating temperature range	0		60	°C	
vs. supply voltage variation			± 0,1	ppm	
vs. load change			± 0,1	ppm	
long term (aging) per year			± 1	ppm	@ +40°C
Frequency adjustment range					
Mechanical (internal trimmer)				ppm	N.A.
Electronic Frequency Control (EFC)	± 5			ppm	
EFC voltage V_C	0,3	1,65	3,0	V	
EFC slope ($\Delta f / \Delta V_C$)		positive			
EFC linearity				%	
EFC input impedance	100			kΩ	
Absolute pull range (APR) over 10 years, see Note 2				ppm ppm	
RF output					
Signal waveform		HCMOS			
Load		10 pF			
Start-up time			4	ms	
Phase noise			-135	dBc	@ 10 kHz
Supply voltage V_S	3,15	3,3	3,45	V	
Current consumption (steady state)			25	mA	@ +25°C
Enable/disable function					
Operable temperature range	-40		+85	°C	
Storage temperature range	-40		+85	°C	
Enclosure (see drawing)		19.1x13.1x5 max		mm	IEC 61837 style CO 30
Weight			5	gram	
Packing		Tape & reel			IEC 60286-3
ESD Sensitivity	1500			V	HBM as IEC 61000-4-2

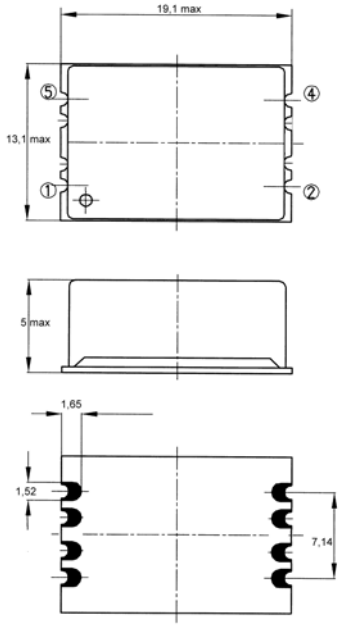
Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Overall frequency stability = initial tolerance + temp.stability + supply & load change + aging

Ordering Code:

Model (Specification)	Frequency [MHz]
AXLE20-12	100

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	V_C	Control Voltage (EFC)
2	GND	Ground
4	RF OUT	RF Output
5	V_S	Supply Voltage
Other pins: Internal connections or do not exist		

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