APPLICATION NOTE AXAN-013

Standard Environmental Conditions for AXTAL Oscillators

If not otherwise stated in the detail specification, AXTAL oscillators meet the following standard conditions for environmental tests:

Test	IEC 60068 Part	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810E Method	MIL-PRF-55310D Clause	Test conditions
Sealing tests (if applicable)	2-17	4.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	4.6.3	208H 210F		3.6.52 3.6.48	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	213B	516.4	3.6.40	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	203C			Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal*	2-6	4.6.7	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
Rapid change of temperature	2-14	4.6.5	107G		3.6.44	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	103B			Test Ca, 56 days
Endurance tests - ageing - extended aging		 4.7.1 4.7.2	108A		 4.8.35	 30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

* According to IEC 60679-1, the tests marked with asterisk are considered as destructive, i.e. the parts which were subject to these test should not be used in the equipment.

Mosbach, 03 March 2009
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