AXTAL ADVANCED XTAL PRODUCTS

Specification	AXUM5	Issue: 01	Date: 2005-01-15

Oscillator type : Quartz Crystal Unit UM-5 with reduced height

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	6		160	MHz	
Crystal cut		AT			
Mode	1 3 5	6 ~ 50 30 ~ 120 75 ~ 160		MHz MHz MHz	Fundamental mode 3rd overtone 5th overtone
Load capacitance C_L		5 ~ 100 pF or Series		pF	See ordering code
Adjustment tolerance		± 5 ~ ± 50		ppm	See ordering code
Frequency stability					
Frequency stability over temperature range		± 3 ~ ± 50		ppm	See Table 1
operating temperature range (steady state)	-40		+105	°C	See Table 1
long term (aging)			± 2	ppm	per year
Resonance resistance $R_{r\ max}$				Ω	See Table 2
Motional capacitance C_1				fF	
Static capacitance C_0			5	pF	
Drive level	0,01	100	1000	µW	
Insulation resistance	500			MΩ	100 V DC
Storage temperature range	-45		+105	°C	
Enclosure (see drawing)		UM-5			
Can height		max. 6.0		mm	
Flange width		max. 3.2		mm.	
SMD configuration		Optional			See ordering code
marking		Frequency (MHz) AXUM5 wwAXyy			Side 1 Date Code & MfG Code
Packing		Bulk / Tape & reel			T&R On request

Notes:

1. Terminology and test conditions are according to IEC standard IEC60122-1, unless otherwise stated
2. Measurement technique according to IEC 60444-5 or equivalent

Table 1: Frequency Stability over Temperature

	ppm	± 3	± 5	± 7	± 10	± 15	± 20	± 30	± 50
°C	Code	1	2	3	4	5	6	7	8
-10 ~ + 60	A	●	●	●	●	●	●	●	●
-20 ~ + 60	B		●	●	●	●	●	●	●
0 ~ + 70	C		●	●	●	●	●	●	●
-10 ~ + 70	D		●	●	●	●	●	●	●
-20 ~ + 70	E		●	●	●	●	●	●	●
-30 ~ + 60	F			●	●	●	●	●	●
-20 ~ + 85	G				●	●	●	●	●
-30 ~ + 70	H				●	●	●	●	●
0 ~ + 85	I				●	●	●	●	●
-40 ~ + 85	J					●	●	●	●
-40 ~ + 90	K						●	●	●
-40 ~ + 105	L							●	●

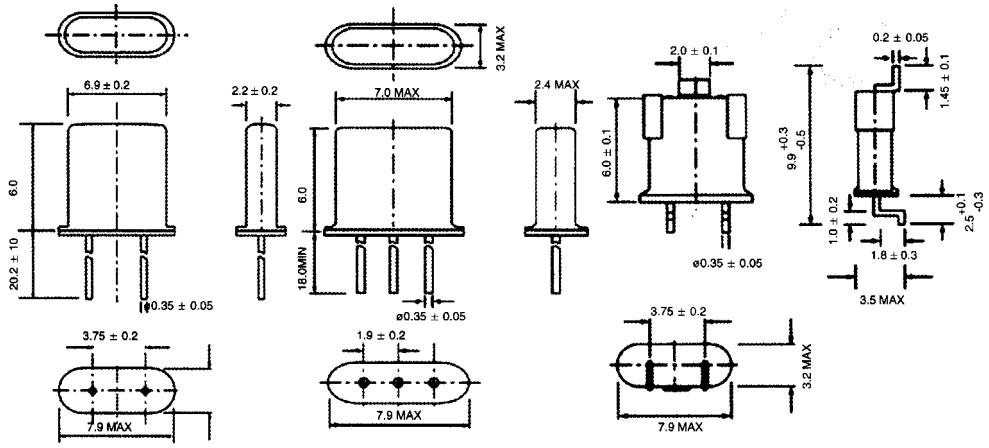
Table 2: Resistance Rr

Frequency [MHz]	Mode	Rrmax [Ω]
6 ~ 9.999	1	40
10 ~ 50	1	25
40 ~ 120	3rd	40
75 ~160	5th	60

Ordering Code:

Type	Frequency	Load capacitance	Mode	Adjustment Tolerance	Freq. stability over temperature	Package Option	Packing
	[MHz]	SR: Series 18: 18 pF	1:Fund 3, 5: OT	[±ppm]	Code :Table 1	J: Jacket/Clip 3: 3rd lead	B: Bulk T&R: Tape& Reel
AXUM5	**35.328**	**18**	**1**	**10**	**A3**	**J**	**T&R**

Enclosure drawings



UM-5 **UM-5 3rd lead** **UM-5 Jacket/Clip**

Environmental conditions

Test	IEC 60068 Part ...	IEC 61178-1 clause ...	Test conditions
Visual inspection, dimensions		4.5 4.6	Enclosure styles as in IEC 60122-3, if applicable
Sealing tests	2-17	4.8.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20	4.8.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock	2-27	4.8.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Bump	2-29	4.8.6	Test Eb, 4000 bumps per Axes, 40g, 6 ms
Free fall	2-32	4.8.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal	2-6	4.8.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 1 kHz, 10g
Rapid change of temperature	2-14	4.8.5	Test Na, 10 cycles at extremes of operating temperature range
Dry heat	2-2	4.8.11	Test Ba, 16 h at upper temperature indicated by climatic category
Damp heat, cyclic	2-30	4.8.12	Test Db variant 1 severity b), 55°C/95% r.H., 6 cycles
Cold	2-1	4.8.13	Test Aa, 2 h at lower temperature indicated by climatic category
Climatic sequence	1-7	4.8.14	Sequence of 4.8.11, 4.8.12 (1st cycle), 4.8.13, 4.8.12 (5 cycles)
Damp heat, steady state	2-3	4.8.15	Test Ca, 56 days
Endurance tests - ageing - extended aging		 4.9.1 4.9.2	 30 days @ 85°C 1000h, 2000h, 8000h @85°C