

<b>Specification</b>	<b>AXGAP52F</b>	Issue: 03	Date: 2005-07-15
<b>Type :</b> GaPO <sub>4</sub> - Crystal Resonator Unit			

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	5		20	MHz	
Actual frequency				MHz	
Crystal cut	Y-16°				
Overtone	1				
Load capacitance C <sub>L</sub>	See ordering code			pF	30 pF if not specified
Adjustment tolerance	-10		+10	ppm	@ 25°C, ref. to offset
Frequency offset				ppm	
Frequency stability				ppm	Overall (Note 1)
vs. temperature	-20		20	ppm	See chart page 2
in operating temperature range (steady state)	-10		+60	°C	
long term (aging)			5	ppm	per year @ +55°C
Resonance resistance R <sub>r</sub>			15	Ω	
Motional capacitance C <sub>1</sub>	40		150	fF	Increasing with frequency
Shunt capacitance C <sub>0</sub>			7	pF	
Drive level		100		μW	
Drive level dependence (DLD)					IEC 60444-6
Unwanted responses	2·R <sub>r</sub>				
Insulation resistance	500			MΩ	100 V DC
Operating temperature range	-10		+60	°C	
Operable temperature range	-40		+85	°C	
Storage temperature range	-55		+125	°C	
Enclosure (see drawing)	HC-52/U				IEC 60122-3 or 61837
Can height	8.8 max.			mm	
SMD configuration	on request				
marking	Frequency (MHz) Spec Date Code				Side 1  (Note 2)
Packing	bulk				IEC 60286-3

**Notes:**

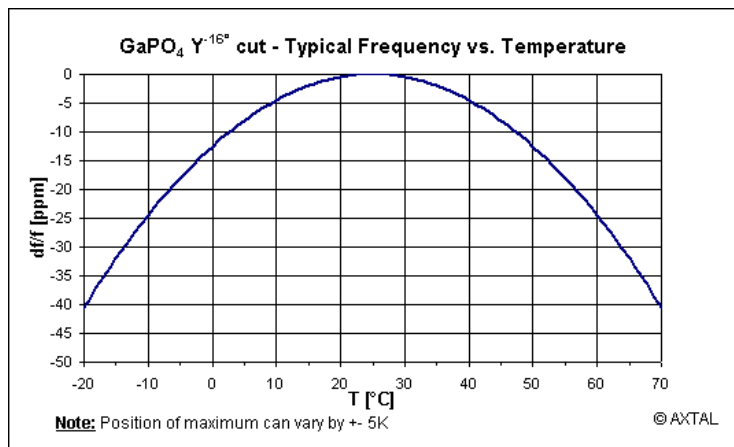
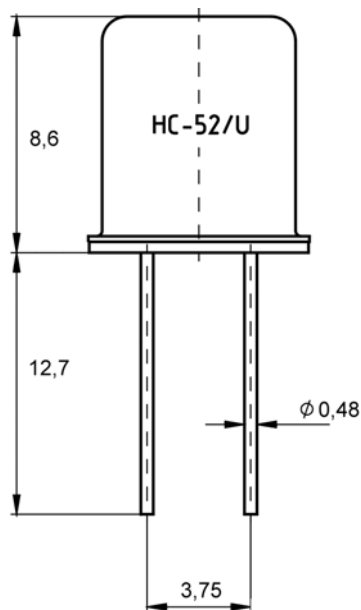
- Overall frequency stability = initial tolerance + temp. stability + aging (1<sup>st</sup> year)
- Date Code format wwAXyy
- Terminology and test conditions are according to IEC standard IEC60122-1, unless otherwise stated
- Measurement technique according to IEC 60444-5 or equivalent

**Ordering Code:**

Model (Specification)	Load capacitance* [pF]	Frequency [MHz]
AXGAP52F	20	7,030

\*Series resonance: "S"

## Enclosure drawing (in mm)



## 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 - 2 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 (1 <sup>st</sup> 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