

<b>Specification</b>	<b>AXX5032-2</b>	Issue: 02	Date: 2006-03-18
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**Oscillator type :** Quartz Crystal Unit in SMD package 5.0x3.2 mm  
**Resin sealed 2 pad** **RoHS compliant**

Parameter	min.	typ.	max.	Unit	Condition
<b>Frequency range</b>	8.0		60	MHz	
<b>Actual frequency <math>f_0</math></b>				MHz	
<b>Crystal cut / Vibration mode</b>	AT				
<b>Load capacitance <math>C_L</math></b>	8 pF, 10 pF or Series				
<b>Overtone</b>	1				
<b>Adjustment tolerance</b>	$\pm 15 / \pm 30 / \pm 50 / \pm 100$			ppm	@ 25°C +5°C
<b>Frequency stability</b>				ppm	Overall (Note 1)
Frequency stability over temperature range	$\pm 10 \sim \pm 100$			ppm	See table below
operating temperature range (steady state)	0		+50	°C	
	-10		+60	°C	
	-20		+70	°C	
	-40		+85	°C	
long term (aging)				$\pm 5$	ppm
<b>Resonance resistance <math>R_r</math></b>				500 $\Omega$	@ 8 ~ 9 MHz
				250 $\Omega$	@ >9 ~ 9.5 MHz
				200 $\Omega$	@ >9.5 ~ 10 MHz
				150 $\Omega$	@ >10 ~ 12 MHz
				100 $\Omega$	@ >12 ~ 16 MHz
				70 $\Omega$	@ >16 ~ 30 MHz
				50 $\Omega$	@ >30 ~ 60 MHz
<b>Motional capacitance <math>C_1</math></b>				fF	
<b>Static capacitance <math>C_0</math></b>				7	pF
<b>Drive level</b>	50		500	$\mu$ W	
<b>Insulation resistance</b>	500			M $\Omega$	100 V DC
<b>Storage temperature range</b>	-40			°C	
<b>Enclosure (see drawing)</b>	5.0 x 3.2 x 1.1				IEC 61637
<b>marking</b>	Frequency (MHz) + Date Code				
<b>Packing</b>	Tape & Reel				IEC 60286-3

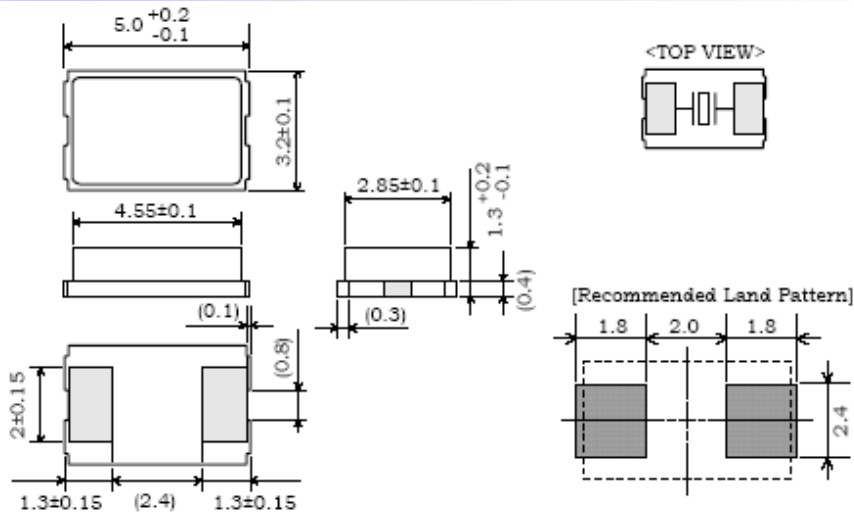
**Notes:**

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

**Frequency vs. Temperature Stabilities**

0° ~ +50°C	-10° ~ +60°C	-20° ~ +70°C	-40 ~ +85°C
$\pm 10$ ppm	$\pm 15$ ppm	$\pm 20$ ppm	$\pm 30$ ppm
$\pm 30$ ppm	$\pm 30$ ppm	$\pm 30$ ppm	$\pm 50$ ppm
$\pm 50$ ppm	$\pm 50$ ppm	$\pm 50$ ppm	$\pm 100$ ppm
$\pm 100$ ppm	$\pm 100$ ppm	$\pm 100$ ppm	

## Enclosure drawing



## 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 ( $235 \pm 5$ )°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 (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