

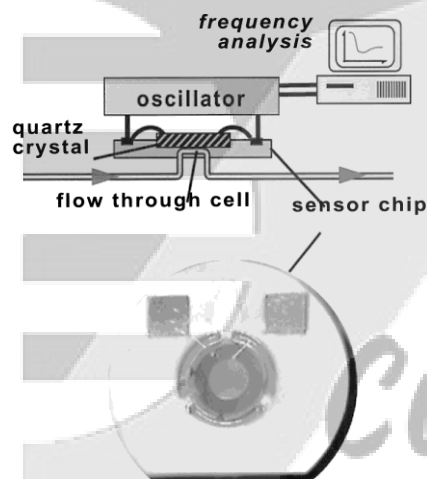


We are committed to the supply of all types of substrate wafers to the microelectronics industry

Bio-sensors Chips

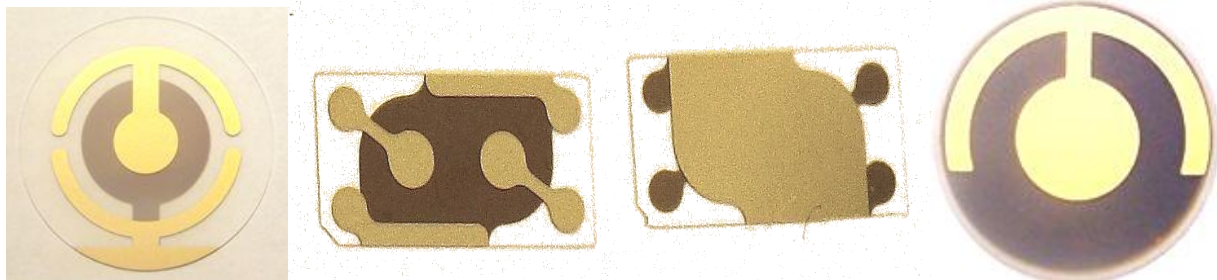
A biosensor is an analytical device, used for the detection of an analyte, that combines a biological component with a physicochemical detector. The sensitive biological element is a biologically derived material or biomimetic component that interacts (binds or recognizes) with the analyte under study. The biologically sensitive elements can also be created by biological engineering. The transducer or the detector element (works in a physicochemical way; optical, piezoelectric, electrochemical, etc.) transforms the signal resulting from the interaction of the analyte with the biological element into another signal (i.e., transduces) that can be more easily measured and quantified. The biosensor reader device with the associated electronics or signal processors that are primarily responsible for the display of the results in a user-friendly way. We are usually custom-designed and manufactured to suit the different working principles of biosensors.

Figure 1: bio-sensor operating theory brief



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Figure 2: our running series typical chips.



HANGZHOU FREQCONTROL ELECTRONIC TECHNOLOGY LTD.

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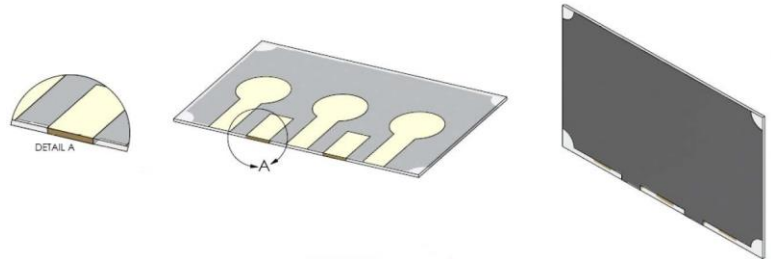




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The following spec sheet is a typical one, you may freely tell us and we' ll pleased to customize them for you.



Quantity	More than 1.5 million monthly
Cut Type	Thickness Shear Mode (TSM)
Nominal Frequency	16.5 MHz +/- 165KHz
Crystal Cutting	35 degrees 15' +/- 3' (AT cut)
Operating Temperature	37° C +/- 2° C
Footprint Size	8.6 +/- 0.05 mm x 5.4 +/- 0.05 mm, see drawing1
Bottom Side	
Number of Electrodes	3
Electrode Size	1.7 mm diameter
Top Side	
Number of Electrodes	1
Electrode Size	8.6 mm x 5.4 mm
Electrode Plating	10nm Chromium Layer 90nm Gold Layer
Shear force	≥7g
Deposition Rate	0.8 nms-1 at nominal room temperature
Aging frequency drift at 25 degrees:	≤2%
Temperature frequency shift (how much can the frequency change over the operating temperature range of 35 to 39 degrees)	as low as possible (e.g. << 1 ppm)
Storage temperature range	assume similar range for IVD device (e.g. 2 °C to 30 °C)
Shunt capacitance and load capacitance spec	no preference
Voltage which it will be driven	in the 100s mV range
Drive level amount of power that will be dissipated	no preference
Insulation resistance	expect less than 200 ohms, see drawing 2
ESR (equivalent series resistance)	low ESR and high quality factor

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