D+T Microelectrónica, A.I.E.

Service Information

Amperometric microsensors (Electrochemical detection)

- What are they?

Ultramicroelectrodes and their arrays are some of the most versatile tools available to the electrochemist. Thanks to their special diffusional regimes, it is possible to measure steady state currents in the absence of forced convection. This facilitates data analysis greatly, it enhances the sensitivity of the electroanalytical technique and it enables to measure in environments of low conductivity.
Other advantages are based on the low cost of the analytical instrumentation required to use them; their ease of use; their quick set-up and the possibility to miniaturize applications, thus making them portable.

- Applications

Electroanalysis.
Biosensors.
Electrochemical Impedance Spectroscopy.
Corrosion studies.
.....

- Who can be interested?

Analytical instrumentation companies.
Sensor companies.
Diagnostic companies.
Analytical laboratories.
……

- Benefits

Lower costs
Rapid response
Major competitivity
Multi-sensing capability
Higher sensibility
Portability
Small dimensions
Small volumes
…….

Contactos:

CNM
Dr. F.X. Muñoz
Dr. F.J. del Campo
Campus UAB
E-08193 Bellaterra, Spain
Tel.: +34 3 594 77 00
Fax: +34 3 580 14 96
e-mail: francescxavier.munoz@cnm.es
franciscojavier.delcampo@cnm.es

http://www.cnm.es

D+T Microelectrónica, A.I.E.
Mr. Humberto Mata
CNM, Campus UAB
E-08193 Bellaterra, Spain
Tel.: +34 3 594 77 00
Fax: +34 3 580 14 96
e-mail: dt_hmr@cnm.es
http://www.cnm.es

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- Description of the microelectrode arrays

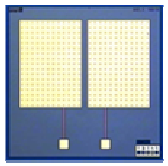
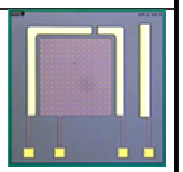
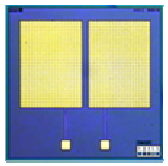
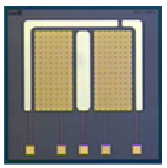
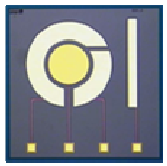
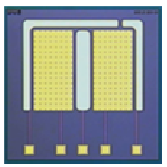
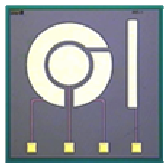
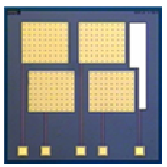
Each of these microchips contains a variable number of integrated microelectrodes of different geometries.
It is possible to supply devices from 2-3 disc electrodes up to microdiscs arrays (5-10 µm diameter) in the same substrate.

These devices can also be supplied in different transducer materials (gold, platinum and iridium).

We can also develop custom made devices.

In our capabilities and core skills, we can offer three different supplying options:

Option A: Fully mounted arrays.
Option B: Wire-bonded arrays (not encapsulated).
Option C: Microelectrode arrays wafer

name	characteristic	Dim W (mm)	photo	name	characteristic	Dim W (mm)	photo
Amp_1	UMA 10 µm d= 50 µm 2 W Au	0.2563 0.5127		**Amp_5**	UMA 10µm, asimetr d=100 µm 1W Pt	0.0659	
Amp_2	UMA 10 µm d=100 µm 2 W Au	0.0641 0.1282		**Amp_6**	UMA 10µm, simetr d=100 µm 2W Au	0.0402 0.0804	
Amp_3	amp round, W Au Ref, Ag/AgCl	0.5026		**Amp_7**	UMA 5µm, simetr d=100 µm 2W Au	0.01005 0.0201	
Amp_4	amp round, W Pt Ref, Ag/AgCl	0.5026		**Amp_8**	UMA 5 µm d=100 µm 4 W Au C Pt	0.0057 0.0228	

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