

pH ISFET Sensors

Ion Sensitive Field Effect Transistors (ISFET) are non-glass pH electrodes. Their fabrication with microelectronic technologies offers advantages like robustness, small size and low cost compared to standard pH glass electrodes.

IMB-CNM fabricates several designs of ISFETs. These contain Si_3N_4 dielectric material for measuring pH.

Applications

Biomedical analysis
Environmental monitoring
Industrial process control

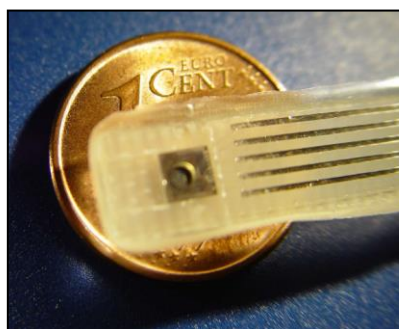
Technologies

- Standard NMOS based technology.
- Packaging with thermocurable and photocurable polymers.

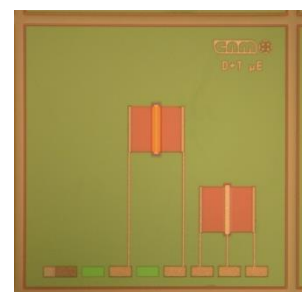
Device features

- Small size
- Adaptable to miniaturized systems.
- Robustness
- Rapid response time
- Long-term stability.
- High reproducibility
- Low impedance output signal.
- Low cost
- Dry storage
- No maintenance required.

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Detail of an encapsulated ISFET sensor



pH ISFET chip