



Circuits Multi - Projets®

Multi - Project Circuits®

ICs and MEMS self powering with

Photovoltaics & Storage Capacitors

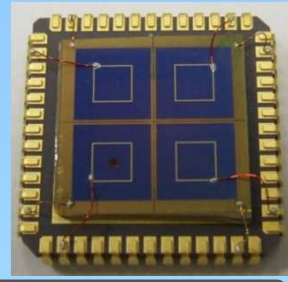
Motivation

Integrated circuits and MEMS self powering needs are currently growing. CMP offers several ways to harvest energy from PV and OPV, and to store energy, in order to self supply embedded ICs and MEMS, for prototyping and low volume.

Thin Film aSi PIN Photovoltaic cells on package lid for IC powering

Standard package lid is replaced by a Photovoltaic lid, composed of either 1 PV cell, or 2 to 4 PV cells to be connected in series to increase the voltage.

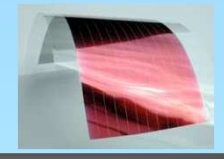
- **PIN stack lid:** Typical features for 1 PV cell:
Voc: 0,8V ; Isc: 12 mA ; MPP: 6,8 mW ; $5 \text{ mW/cm}^2 < P < 8 \text{ mW/cm}^2$
Price for 15 prototypes: 4 600 euro
- **PIN/PIN tandem stack lid:** Typical features for 1 PV cell
Voc: 1,6 V ; Isc: 5 mA ; MPP: 6,1 mW ; $5 \text{ mW/cm}^2 < P < 8 \text{ mW/cm}^2$
Price for 15 prototypes: 4 600 euro



Organic Photovoltaic cells for IC powering

Polymer based organic Photovoltaic cells fabricated on flexible, tough and scalable polymer sheet that can be integrated with the IC.

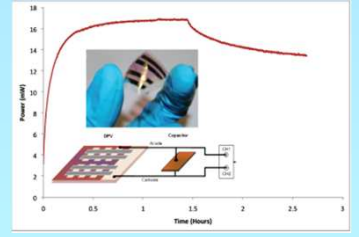
- **Organic PV:** Typical features for 1 PV cell:
Voc: 0,5 V ; Isc: 5 mA ; MPP: 1 mW ; $2 \text{ mW/cm}^2 < P < 4 \text{ mW/cm}^2$
Price for 15 prototypes: 2 350 euro



StOR : Organic High Storage capacitor for IC powering

StOR is a thin film flexible polymer power storage device. Thinner than a sheet of paper and far tougher, StOR is fully customizable in size and shape, and is fabricated using roll-to-roll processes. Possibility of multi-cell construction.

- **STOR:** Typical features:
Specific Capacitance 1000 F/g
Energy Density 56 Wh/kg
Power Density 1.1 kW/kg
Voltage Range 1 mV to 5 V
Operating Temperature 0°C to 300°C
Price for 15 prototypes: contact CMP



Contact

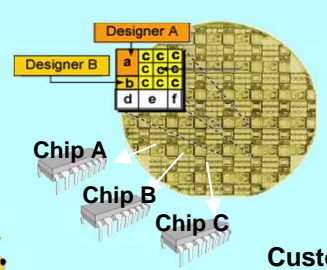
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Customers

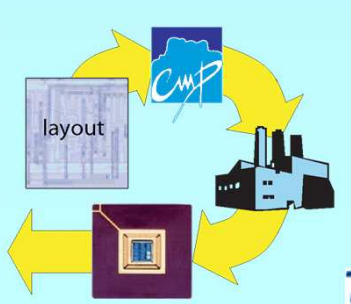
750 Universities and Research laboratories, 270 Industrial Companies from 70 countries, have already participated.



Multi Project Wafer (MPW)



MPW Cycle Time



Integrated Circuits and MEMS

CMOS, BiCMOS, SiGe, HV, GaAs, MEMS, MUMPS, 3D, FDSOI from

