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 Photovoltaïc 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 under 1 sun (100 mW / cm²):
  Voc: 0,8V ; Isc: 12 mA ; MPP: 6,8 mW ; 5 mW/cm² < P < 8 mW/cm²
  Price for 15 prototypes: 4 600€

→ PIN/PIN tandem stack lid: Typical features for 1 PV cell under 1 sun (100 mW / cm²):
  Voc: 1,6 V ; Isc: 5 mA ; MPP: 6,1 mW ; 5 mW/cm² < P < 8 mW/cm²
  Price for 15 prototypes: 4 600€

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

→ Organic PV: Typical features for 1 PV cell under 1 sun (100 mW / cm²):
  Voc: 0,5 V ; Isc: 5 mA ; MPP: 1 mW ; 2 mW/cm² < P < 4 mW/cm²
  Price for 15 prototypes: 2 350€

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: 2 350€

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Customers
750 Universities and Research laboratories, 250 Industrial Companies from 70 countries, have already participated.

Multi Project Wafer (MPW)

MPW Cycle Time

Integrated Circuits and MEMS
CMOS, SiGe BiCMOS, HV-CMOS, SOI, P-HEMT GaAs, MEMS, 3D-IC from

StOR
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