ONGOING RESEARCH IN H-C3 SCOPE

Micro Fuel Cell

R. Hahn, S. Wagner, H. Reichl

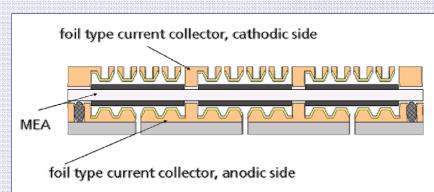
- Hydrogen Polymer Electrolyte Membrane
 Fuel Cell
- Miniaturization and high throughput production of micro fuel cells
- Adapted electronics manufacturing processes technology
- Complete micro system with button cell type hydrogen generator



in cooperation with

IZM

Fraunhofer _{Institut} Zuverlässigkeit und Mikrointegration



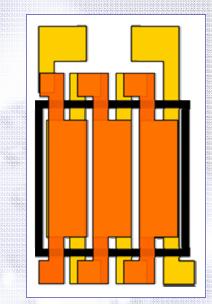
Schematic cross section

Technical Data

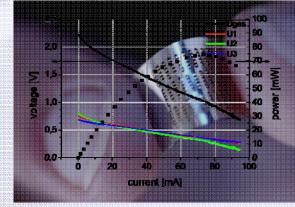
- Size 1 cm², (active area 0.5 cm²) 200 µm thickness,
- Voltage: 2 ... 3 V
- Power: 50 mW/cm² (10-60 °C; RH =10-90%) 200 mW/cm² in the average realm T and RH

Technology

- · Reel-to-reel assembly of 3 separate foils
- RIE structured micro flow fields
- · No need for gas diffusion layers
- One membrane with laser structured electrodes for the complete planar stack



Top view of 3 in series connected single cells



Micro Fuel Cell and energy yield