

Micro Fuel Cell

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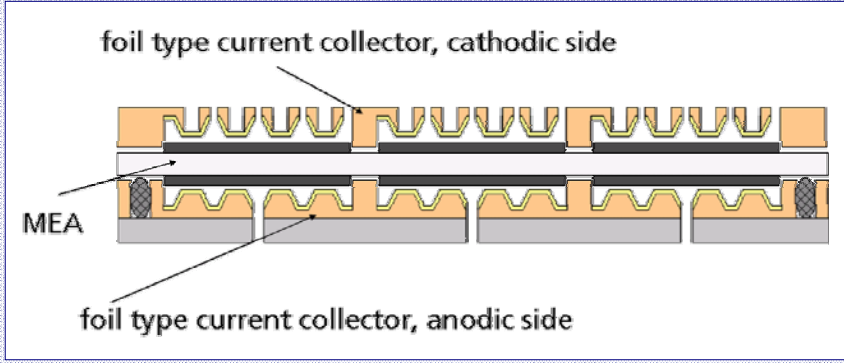


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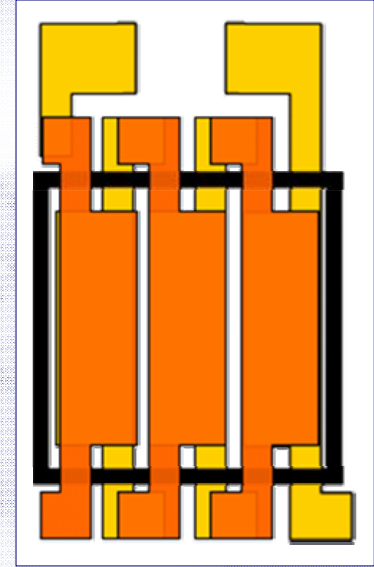


Fraunhofer Institut
Zuverlässigkeit und
Mikrointegration

- 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



Schematic cross section



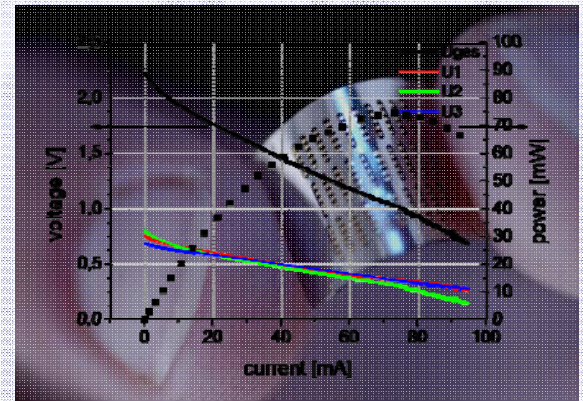
Top view of 3 in series connected single cells

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



Micro Fuel Cell and energy yield