SiPix

Electronic Paper Displays

SiPix offers Microcup® electronic paper display modules. Our high-contrast displays are reflective, extremely thin, and have low power consumption - the display image is retained with the power removed. Both rigid and flexible displays may be generated. Contact us for more information regarding both segmented and high resolution e-paper solutions.

LOW POWER

ULTRA THIN

FLEXIBLE

World's First Smart Card with Flexible Display

High Resolution Display

Key Benefits

Ultra Thin
- Thinner than 125 μm without backplane
- Lightweight form factor

Flexible
- Bendable with non-rigid backplanes
- Resistant to torsion

Low Power Consumption
- Long-term bistable image
- Prolonged battery life

Paper-Like Readability
- Viewing angle ~ 180˚
- Sunlight and non-uniform light visibility

Extremely Durable
- Impact Resistant
- Pressure insensitive

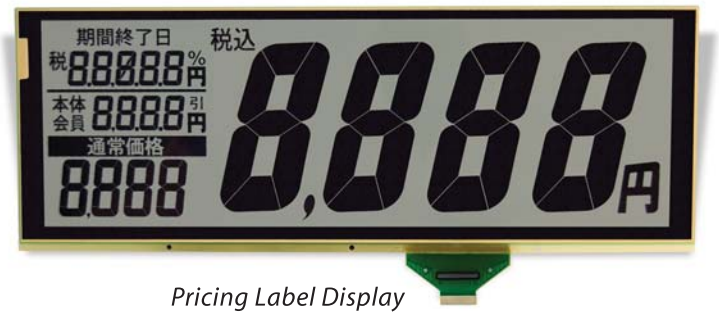
Color Options

SiPix e-Paper modules are designed with either monochrome color or area color:
- **Monochrome Color Modules:** black, red, green, blue and gold
- **Area Color Modules:** black, red, green, or gold combinations
- **Contrasting Color:** white
- **No Color Filters Used**

Black Red Green

Blue Gold

3-Color POP Display



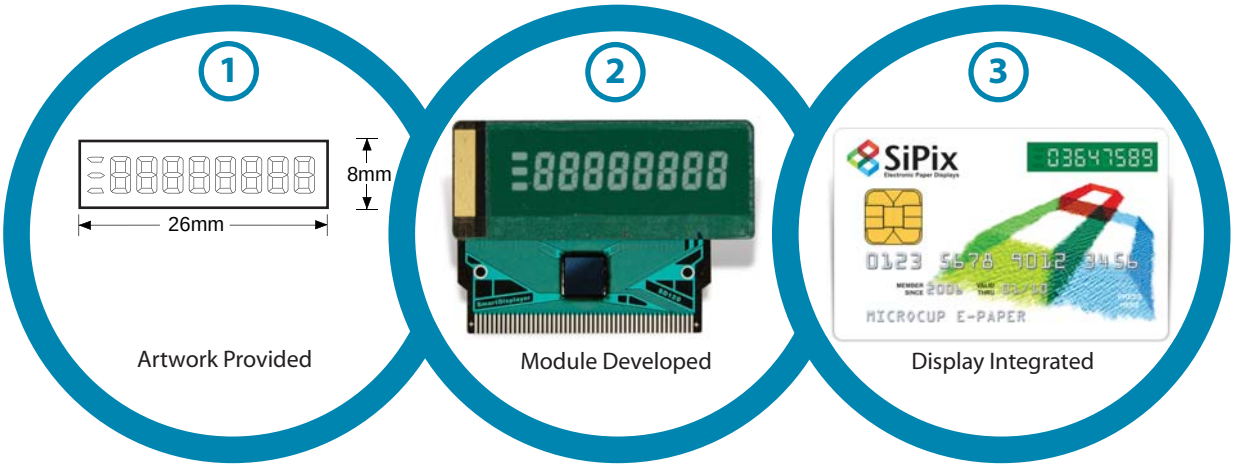
Pricing Label Display

Typical e-Paper Applications

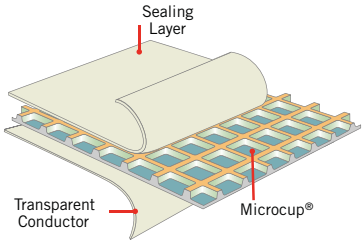
- Smart Cards
- Pricing Labels
- Indicators
- Keypads
- Point of Purchase Signs
- Message Boards
- e-Books / e-Newspapers
- Watches/Clocks

SiPix

Segmented Display Development Process

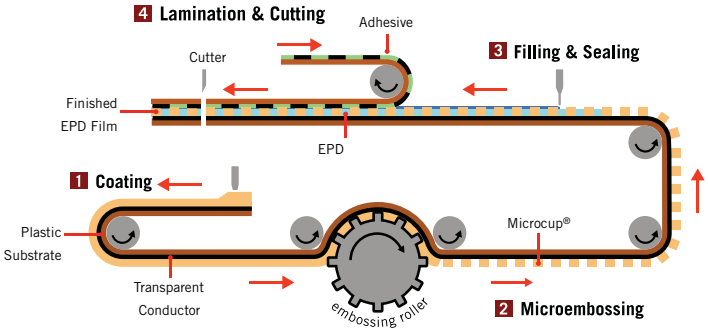


Microcup® Electronic Paper



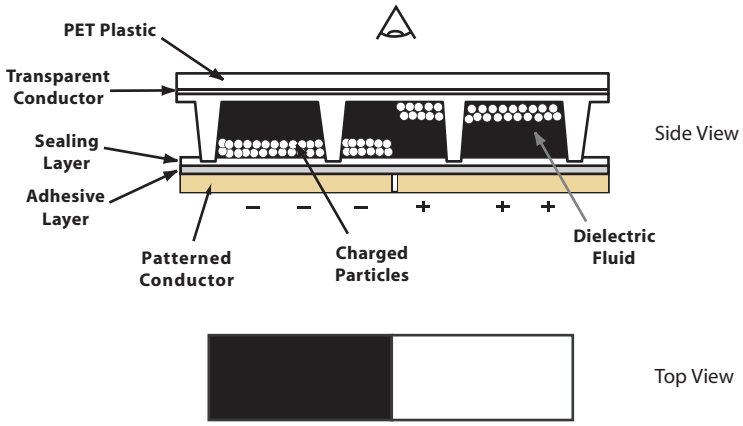
SiPix Microcup® Electronic Paper is a display material consisting of an array of microscale containers that hold electrically-charged white particles and dielectric fluid. Though < 150 μm thin, it is significantly durable, resisting impact and pressure due to its supporting wall architecture.

Roll-to-Roll Manufacturing



SiPix e-Paper is manufactured using a roll-to-roll embossing process. A plastic substrate is coated and embossed to form Microcups®. These are filled with white particles and dielectric fluid and then hermetically sealed.

Microcup® Display Operation



Under the influence of an applied electric field, charged white particles within the Microcup® e-Paper migrate through the dielectric fluid. If the particles are at the visible surface, that area of the display reflects a white color to the viewer. Otherwise, the display will reflect the alternate color, which presently is black, red, green, blue, or gold. Grayscale may be produced by modulating the electric field across the Microcup® e-Paper

SiPix e-Paper has image memory. After the power has been removed, the particles remain fixed and the display image content is retained. Due to this benefit, extremely low-power portable or remote devices may be designed. To discover how this technology will enable your current display applications, please contact us.

For more information, contact SiPix directly or go to the web at http://www.sipix.com

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