

# World's First Amorphous Silicon 2.6-inch VGA LCD Panel from Samsung

9 August 2004

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[Samsung Electronics Co. Ltd.](#), the world's largest provider of TFT-LCD display panels, today announced the world's first a-Si (Amorphous Silicon) 2.6-inch TFT-LCD with VGA (300ppi) image quality. Using a-Si [technology](#), mobile phone displays are now capable of projecting the same VGA format found on notebook PCs and desktop monitors. With almost **seven times the resolution of a 42-inch high-definition LCD TV at 300 pixels per inch (ppi)**, an a-Si enabled mobile phone can be used as a high quality mobile TV.

"Samsung has built its proprietary amorphous silicon gates into the LCD panel, maximizing the efficiency of LCD design, controllers and module processing," said Vice President Kim Hyung Guel of the Mobile Display Business Team. "This superior technology will be initially targeted for PDA phones and other top-end mobile phones that require high image quality."

Amorphous silicon (a-Si) and polycrystalline silicon (polysilicon or p-Si) are the two main silicon technologies used in the thin film transistors for LCDs. Low-temperature polysilicon can achieve a high degree of integration, making it the method of choice when producing panels that require high resolution.

Conventional wisdom has held that structural properties would limit a-Si technology to 150ppi resolution. However, Samsung Electronics engineers completed a 1.94-inch display with qVGA (207ppi) resolution in May of this year, and continued to improve upon its own a-Si technology to achieve VGA resolution for small- and mid-sized display panels.

Samsung's latest LCD is a transfective model (200:1 contrast ratio and 150cd/m<sup>2</sup> brightness), which provides sharp images even when exposed to bright summer sunshine. Mass production on existing lines is scheduled to begin in December of

this year, giving the company a competitive edge in terms of production cost and supply capability. Samsung will eventually expand the a-Si technology to "smart phones" and mobile phones equipped for digital multimedia broadcasting.

Source: [Samsung](#)

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