

**NEC Electronics Announces Two New Liquid Crystal Display Driver ICs to Improve Cost Efficiency in Large-Size Displays**

**KAWASAKI, Japan, DUESSELDORF, Germany, March 30, 2004** – NEC Electronics Corporation and its subsidiary in Europe, NEC Electronics (Europe) GmbH, announced today the release of the  $\mu$ PD160063P and  $\mu$ PD160095, the source driver ICs for thin film transistor (TFT) color liquid color display (LCD) panels for use in large-scale LCD televisions and PC displays. Both driver ICs are designed to offer an excellent solution for realizing economical TFT color LCD panels, targeted at XGA (1024 RGB x 768 resolution) and WXGA (1280 RGB x 768 resolution) sizes. The  $\mu$ PD160063P features the wiring on array (WOA) method, a data signal connection method in LCD panels configured of multiple driver ICs which significantly reduces the signal data lines required. The  $\mu$ PD160095 provides data output pins of 768, increasing the number by approximately 100 percent from the company's conventional LCD driver ICs, thereby reducing the number of LCD driver ICs to be used in a display by half.

“Demand for TFT-LCD panels in the TV, PC and industrial markets is rising dramatically, forcing manufacturers to raise the resolution (pixel count) of TFT-LCD panels. The subsequent increase in the number of TFT-LCD driver ICs used, however, has resulted in higher component and assembly costs,” said Kazumichi Aoki, general manager, 5th System LSI Division, NEC Electronics Corporation. “In response, NEC Electronics has developed new TFT-LCD driver IC solutions that improve cost efficiency in TFT-LCD panels by using the WOA method and newly developed high-output-count technology.”

The WOA applied to  $\mu$ PD160063P is a method in which image data is transmitted like a relay from one driver IC to the next like a row of beads simply by inputting the data signals from the controller board to the first driver IC, thus enabling image data to be transmitted between multiple driver ICs via the wiring on the liquid crystal glass. With this method, only power supply signals have to be input to each LCD driver IC from controller board, reducing the width and layers of the flexible tape or substrate compared with the current method where data signals as well as power supply signals have to be input to each of the LCD driver ICs from controller board. This method also reduces the size of the controller board itself by approximately 50 percent.

The  $\mu$ PD160095, on the other hand, cuts the number of TFT-LCD driver ICs used by increasing the number of data output pins to 768 from the currently mainstream 384 or 480,

through a newly developed technology to reduce peak current by distributing the timing of output signals. For example, eight conventional 384-output TFT-LCD drivers would be required in an XGA-size TFT-LCD panel (1024 RGB x 768 resolution), whereas only four are necessary with the  $\mu$ PD160095. In a WXGA-size TFT-LCD panel (1280 RGB x 768 resolution), eight conventional 480-output TFT-LCD drivers would normally be required, whereas only five  $\mu$ PD160095 ICs are needed.

**Availability**

Engineering samples are available now for the  $\mu$ PD160063P and will be available in May this year for the  $\mu$ PD160095 respectively. Mass production is slated to start in August 2004 for the  $\mu$ PD160063P and in September 2004 for the  $\mu$ PD160095. Monthly production volume is expected to start from 100,000 units each and reach 1,000,000 units each by March 2005. Availability is subject to change.

Refer to attachment for specifications of the new products.

**About NEC Electronics**

NEC Electronics Corporation (TSE: 6723) specializes in semiconductor products encompassing advanced technology solutions for the high-end computing and broadband networking markets, system solutions for the mobile handsets, PC peripherals, automotive and digital consumer markets, and platform solutions for a wide range of customer applications. NEC Electronics Corporation has 24 subsidiaries worldwide including NEC Electronics America, Inc. ([www.necelam.com](http://www.necelam.com)) and NEC Electronics (Europe) GmbH ([www.ee.nec.de](http://www.ee.nec.de)). In addition to marketing, selling and supporting NEC Electronics products to customers in their respective regions, NEC Electronics America and NEC Electronics Europe also operate local manufacturing facilities in Roseville, California, and Ballivor, Ireland, respectively. Additionally, NEC Electronics America for North America and NEC Electronics Europe for Europe are the sales and marketing channels of NEC AM-LCD and PDP modules. For additional information about NEC Electronics worldwide, visit [www.necel.com](http://www.necel.com).

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<Attachment>

1. Specifications of  $\mu$ PD160063P

Part number:  $\mu$ PD160063P

Gray scale: 6 bit

Out put (ch): 384

Interface: CMOS

Driver part supply voltage: 8~10

Logic part supply voltage: 2.7~3.6

Max frequency: 70 MHz

Additional function: COG cascade (pad pitch 34.5  $\mu$ m)

Resolution mainly supported: XGA (1024x768), WXGA (1280x768)

Application: Monitor, note PC

2. Specifications of  $\mu$ PD160095

Part number:  $\mu$ PD160095

Gray scale: 6 bit

Out put (ch): 768

Interface: RSDS

Driver part supply voltage: 8~10.5

Logic part supply voltage: 2.7~3.6

Max frequency: 85 MHz

Additional function: Square inversion

Resolution mainly supported: XGA (1024x768), WXGA (1280x768)

Application: Monitor, note PC

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