

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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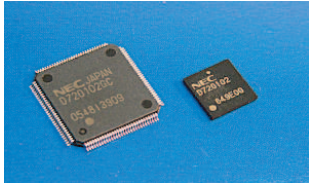
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## ECOUSB™ Series

# μPD720102 USB2.0 Host Controller



NEC Electronics is a key member of the USB Implementers Forum. The World's first USB2.0 Host controller and Hub controller were introduced by NEC Electronics. ECOUSB series products inherit the best connectivity and quality from first generation products, while reducing power consumption and BOM costs. NEC Electronics' expertise in USB enables top-notch technical support. NEC Electronics can provide a total solution and accelerate customers' system designs with best performance.



μPD720102 was designed to best suit in many applications to realize the USB host interface. It has an excellent performance in terms of data transfer rate. It is compatible with the current USB drivers supported in various OSs. It consumes very low power during no USB device attachment on the ports as well as during data transfer. The μPD720102, known as ECOUSB series products, integrates an 1.5 V internal voltage regulator for core logic and several termination resistors for the USB signals, helps developers to realize an ecological and economical system easily.

## Features

- Compliant with USB2.0 specification (Maximum data transferring rate; 480 Mbps)
  - USB 2.0 Certified by USB Implementers Forum
- 3 USB downstream ports
- Compliant with EHCI Rev. 1.0
- Compliant with OHCI Rev. 1.0a
- Compliant with PCI specification Rev. 2.2 (32 bits, 33 MHz), 3.3 V PCI Interface
- Compliant with PCI Power Management specification Rev. 1.1
- Supports PCI Mobile Design Guide Version 1.1
- Accelerates data transfer rate for high-speed device with control pin
- Low power consumption during idle time and data transfer
- On-chip resistors for USB signals to reduce total board costs
- 30 MHz crystal interface/48 MHz clock input
- 3.3 V single source (integrated 1.5 V voltage regulator for internal core logic)
- Small package lineup
  - 120-pin plastic TQFP (Fine pitch) (14 x 14 mm), 121-pin plastic FBGA (8 x 8 mm)
- Native software driver support for various OSs

## About ECOUSB



NEC Electronics' new USB Controller series aims to be adaptive "Ecological Solutions" focused on being "easy to use" for design engineers and end users, reducing power consumption, and shrinking the size of board design by integrating many external electronic components in a small package.

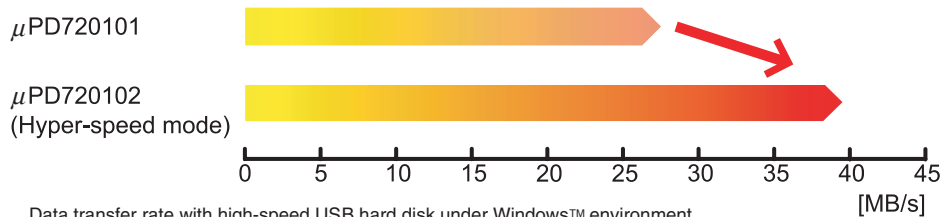
## Applications

- PC card, Mobile broadband PC card
- Digital TV, Set-top-Box
- DVD player/recorder
- Projector
- Media player, Digital Audio systems
- Multi-function printer
- Storage, Router, NAS, etc.

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## The best performance

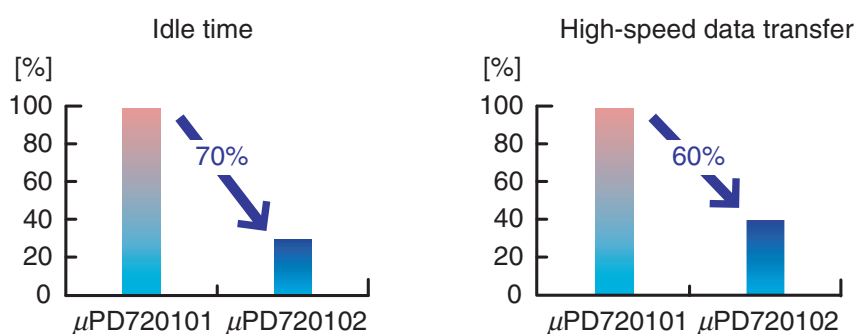
- Improve data transfer rate with optimizing internal architecture.



Data transfer rate with high-speed USB hard disk under Windows™ environment.  
\* Data transfer rate differs from the system environment.

## The lowest low power consumption

- Reduce power consumption during no device attached on the ports, as well as during high-speed data transfer.



## Reference designs



Reference design (PCI card)  
Part number: **ET-D720102-0003**

For more information: [www.necel.com/usb/en/product/upd720102.html](http://www.necel.com/usb/en/product/upd720102.html)

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