Combo
LVDS and GPIO cell

NSIO_TS40LP_2V5_1V1_COMBO

Product description

A combo cell is an IO cell combining an LVDS receiver, driver or transceiver with a double CMOS GPIO (in, out or bidirectional) powered at 2.5V/1.1V or 1.8V/1.1V, designed on the TSMC 40 LP technology.

Main characteristics

- TSMC 40 LP
- 2.5V/1.1V IO/Core transistors
- Fully compliant with TIA/EIA-644-A-2001

Deliverables

- GDS II layouts
- LEF abstracts
- CDL netlists
- Liberty timings
- Verilog description
- A full datasheet
- An integration note

Status

- Silicon proven

Applications

- Multi-purpose reconfigurable IO
- Point-to-point, point-to-multipoint or bus-based IC high-speed data communications
- Intra-package (e.g. MCM or SIP) inter-die high-speed data communications
- Backplane high-speed data communications
- High-speed serial communications (HDMI, SATA, PCIeX, etc.)
- Communication to LCD/OLED screens
- Video sensor digital data interface

Main features

- Standard-compliant to TIA/EIA-644-A-2001
- Built-in, low parasitic ESD protection
- Easily integrates with TSMC I/O library cells
- All-in-ring® topology, so no core silicon area is used by LVDS
- The same cells operate with 2.5V/1.1V or 1.8V/1.1V power supplies
- Adjustable output common mode voltage (LVDS or SubLVDS mode)
- Adjustable driving current for buses with single or double termination
- Adjustable output driving current for CMOS GPIOs
- Standby/power down mode
- Internal bias voltage generation and bias current distribution circuitry
- Selectable on-chip termination resistor, with optional user tuning
- Digital loopback functions to ease ATE testing
- Up to 2 Gbps data rate LVDS

nSilition
Smaller, Smarter, Stronger

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Further information

For further information about this product and other products of the nSIO_TS40LP_2V5_1V1 transmit / receive / combo LVDS IO library, development roadmap, availability and licensing terms, please e-mail to sales@nsilition.com.

Delivery and support

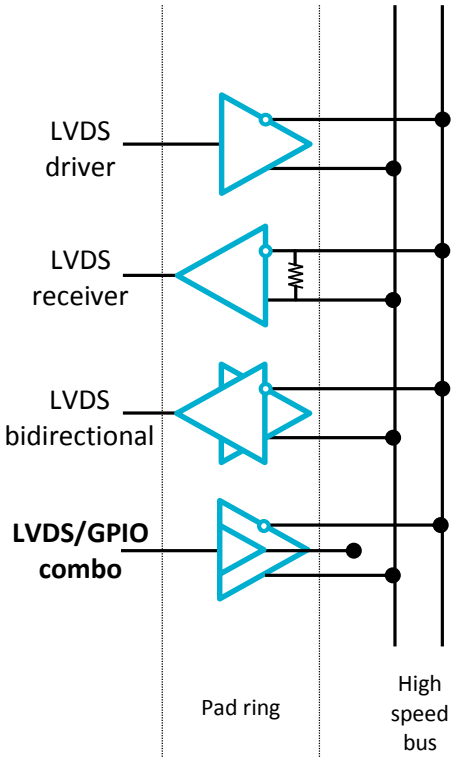
Support can include close integration follow-up by our design team or custom-made cells or features

These LVDS IOs are available as hard macro-cells for reuse in any design based on the TSMC 40 LP with 2.5V IO transistors CMOS process. No extra IP license from any third party will be needed for the cells or the cell library.

In addition, full support service is available on request. Support can include close integration follow-up by our design team or custom-made cells or features. nSilition may provide support to the Customer for qualifying the maximum clocking frequency corresponding to the selected chip package and the PCB LVDS track length and impedance. IBIS models for digital outputs can be provided upon request.

Porting to another process

The nSIO_TS40LP_2V5_1V1 transmit/receive LVDS IO library is silicon proven in the TSMC 40 LP 2.5V/1.1V CMOS process. It can be easily ported to another foundry and/or another similar CMOS process node upon request. Please contact us for details and availability.



Available LVDS cells in nSIO_TS40LP_2V5_1V1 IP library

About nSilition

nSilition is a leading analog and mixed-signal semiconductor IP provider.

nSilition specializes in the development of high quality analog and mixed-signal high performance semiconductor IPs. With reference designs available for 10b to 14b A/D and D/A converters, high-speed IO circuits, PFM and PWM high efficiency DC/DC integrated converters and high precision bandgap references; nSilition enables the highest value analog and mixed-signal functionalities at the lowest risk.

The “IP design” service of nSilition offers top-class quality, customization and support dedicated to your needs and your specifications.

Disclaimer

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