

## LVDS Receiver 1250Mb/s, 800Mhz clock, (in-line)

### Overview:

V-Trans 's LVDS technology solutions eliminate the trade-offs in speed, low power, low noise (EMI), and BOM cost saving for high performance data transmission applications.

This LVDS receiver is a very fast comparator that can recover very small differential signaling with a very wide common mode range, allowing a proper recovery of LVDS signals and its use with many other specification.

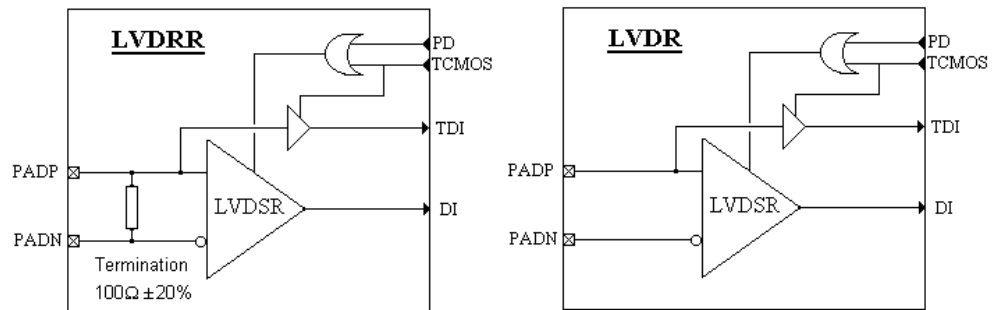
Two separate library are available: inline (VT18LVDSR-I) and staggered I/O configuration (VT18LVDSR-S).

This library use In-line I/O pitch of 75um.

### Features:

- 1P6M layout structure based on 0.18um 1P6M 1.8V generic logic process.
- 3.3V/1.8V  $\pm 10\%$  supply voltage, -40/+125°C temperature.
- IEEE Standard 1596.3-1996 and ANSI/TIA/EIA-644-A Specifications.
- Up to 1250Mb/s DDR, or 800Mhz clock.
- Optional 100Ω on die termination  $\pm 20\%$ .
- Power down mode.
- CMOS input for chip testability (JTAG...)
- Rail to Rail Input common mode for extended compatibility with other specification.
- Do not require extra external bias circuit.
- Inline compact design x=150um y=160um
- Small area : 0.024 mm<sup>2</sup>
- Comes with a set of ESD protected power pads, corner, filler and break cells for easy integration.
- Silicon proven, and test report available.

### Block Diagram:



### Application:

The high-speed, low power, low noise/EMI and low cost benefits of LVDS broaden the scope of LVDS applications far beyond those for traditional technologies. Here are some examples:

- |                               |                                |   |
|-------------------------------|--------------------------------|---|
| - Flat panel displays,        | - 3G base station (clock tree) | - Clock buffer/distribution             |
| - Set top boxes               | - Cell phones, PDA             | - High speed comparator                 |
| - Printers                    | - Military communications      | - ADC / DAC low noise digital interface |
| - In flight/car entertainment |                                |   |

## Deliverables:

V-Trans provides 2 separate kits depending on licensing agreement.  
In most cases, the physical is merged on foundry site.

### Design Kit

Design kit includes :

- LEF view and abstract gdsII
- Verilog HDL behavioral model
- Liberty (.lib) timing constraints for typical, worse and best corner case
- Full Datasheet /Application Note with integration guidelines document
- Silicon characterization report when available

### Tapeout Kit

Tapeout kit includes the design kit plus physical view:

- gdsII
- LVS netlist and report
- DRC/ERC/ESD/ANT report

## Portfolio and Design Services:

V-Trans Microelectronics has been combining all the best practices and methodologies in analog and mixed-signal high speed interfaces design to answer the demanding market of high performance analog IPs using cheaper technologies such as 0.18um.

Our Portfolio covers a wide range of applications and can be customized on demand to answer exactly your specific needs.

Custom layout and back-end services are also available if you have a tight project schedule.

Our experience includes high integration circuit such as network SOC, CPU and FPGA which allow us to provide a full solution for even more complex chip.

Please contact us to tell us how we could help you or for any analog IP information.

- High speed interfaces ( LVDS serdes, Display Interfaces, DDRII, DDR3, PCI-X, HDMI rev1.1)
- Converters ( video ADC 10b 170Mhz, Triple video DAC )
- Timing circuits ( Audio PLL, Video PLL, DDR memory PLL, custom PLL.)
- Low noise Crystal Oscillators
- Power management ( LDO regulators, Power On Reset.. )
- Video and WIMAX Analog Front end

V-TRANS Microelectronics – Shanghai Office  
Tel: (+86)-021-54234123  
[v-trans@v-trans.com](mailto:v-trans@v-trans.com)