

Triple 10-Bits, voltage output DAC - 10Mhz 3.3V and 1.3V full-scale (compact layout version)

Overview:

This IP is a triple channel 10-bits 10 MS/s general purpose voltage output DAC, optimized for analog LCD controller application and designed for industry standard 0.18um 1P6M CMOS technology supplied at 3.3V.

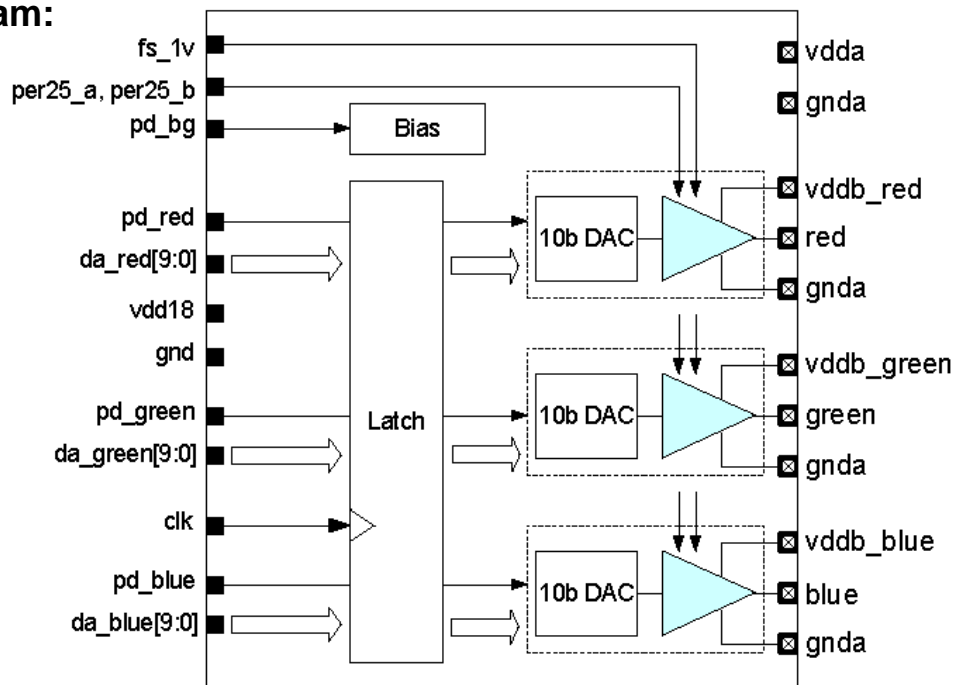
Each independent DAC uses an internal segmented current steering architecture, with at least 10-bit of intrinsic static accuracy, combined with an high slewrate (120V/uS), and high output current (up to 36mA), rail to rail voltage output driver.

A 1V full scale option allow the DAC to also deliver standard video signals on a 37.5Ω termination.

Features:

- 10 Bits resolution.
- 10MS/s update rate.
- Programmable full scale : 3V or 1V.
- Adjustable max output current 24, 30 or 36mA.
- 3.3V ±10% supply voltage, -40/+125°C temperature.
- 1P6M layout structure based on 0.18um 1P6M 3.3V/1.8V generic logic process.
- Individual DAC channel Power down.
- Do not require extra external bias circuit.
- Very small cell area: [contact us]
- Built in I/Os with ESD protection on 75um pad pitch.
- Antenna diodes on each digital input.

Block Diagram:



10 Bits Triple Voltage Output DAC

Application:

- Flat panel analog display controller
- General signal generation either 3V or 1V full scale

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

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