

## Triple 10-Bits Video DAC, 240Mhz

### Overview:

This IP is composed of a triple channel 10-bits 240 MS/s DAC, designed for industry standard 0.18um 1P6M CMOS technology supplied at 3.3V.

Each independent DAC uses a segmented current steering architecture, combined with improved two-dimensional centroid switching scheme, to achieve simultaneously high update rates, at least 10-bit of intrinsic static accuracy, and a very good dynamic characteristics.

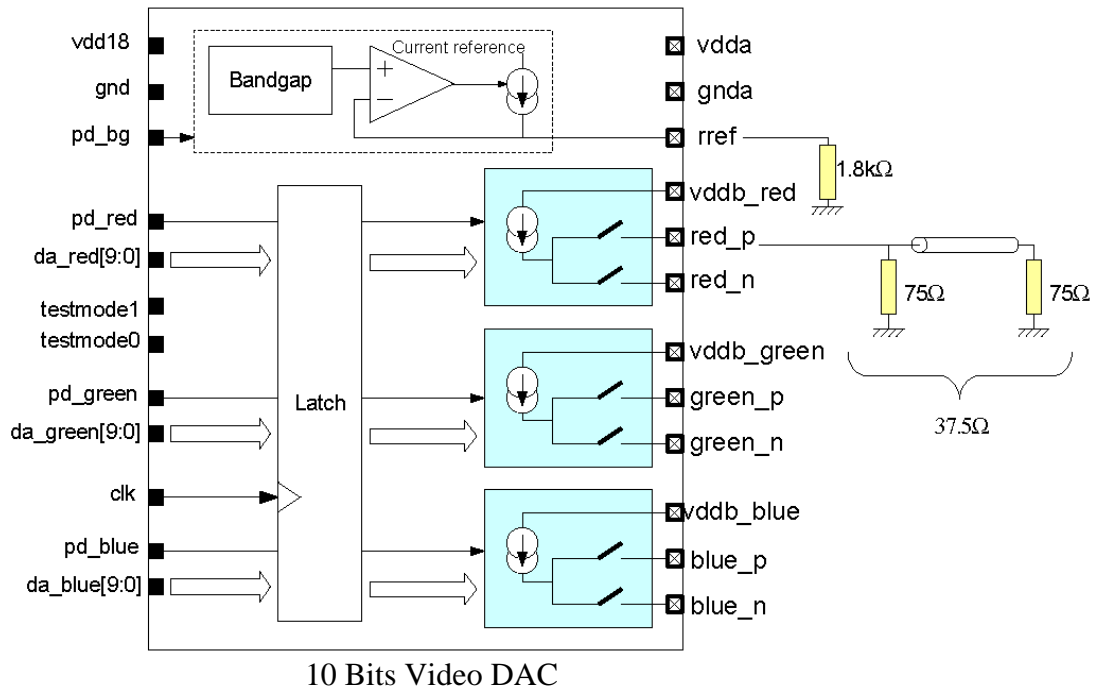
The differential output supports single-ended applications and is designed to be loaded by double 75Ω line termination, (37.5Ω).

An external resistor, 1k8Ω typical is used to set the full scale current of the DAC.

### Features:

- 10-Bits Resolution
- 240MS/s Update Rate
- 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.
- Cell area: [contact us]
- Built in I/Os with ESD protection on 75um pad pitch.
- Antenna diodes on each digital input.
- Silicon proven.

### Block Diagram:



**Application:** Video signal generation.

## 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 tied 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)