

## FLI8538

### Single-Chip Enhanced LCD TV Controller

#### APPLICATION

- LCD and PDP TV
- DLP™(1), LCD, and LCOS Front and Rear Projection

#### FEATURES

- Integrated 3D Video Decoder
- Flexible Digital and Analog Capture up to 150 MHz
- VBI Signal Processing including WST version 2.5 support<sup>1</sup>
- Flexible DDR Memory Interface
- Faroudja® TrueLife™ Video Enhancer
- Advanced Picture-in-Picture (PiP) Features
- Advanced Color Management (ACM-3D) and Adaptive Contrast Control (ACC)
- On-Chip Microprocessor
- Advanced Bitmapped OSD Controller
- LCD Overdrive
- Embedded 10-bit Dual Channel LVDS for 1080p and WUXGA panel support

#### PACKAGE

- 416 PBGA

**FAROUDJA**  
DCDi CINEMA™

#### DESCRIPTION

The Genesis Microchip FLI8538 offers high integration for advanced applications of Picture-in-Picture (PiP) and Picture-by-Picture (PBP) with an integrated video decoder with a 3D comb filter. The FLI8538 can power up to 1080p displays with the proven DCDi Cinema™-branded technology.

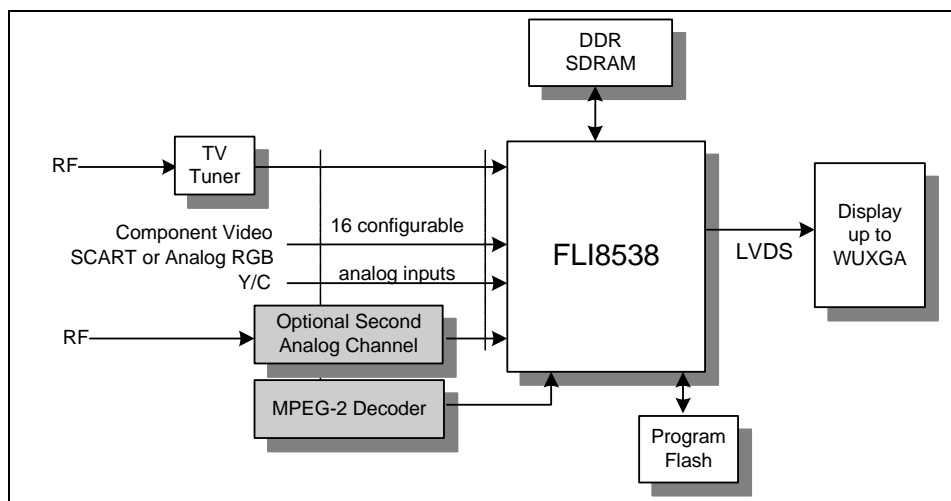
Special performance features such as the Faroudja® DCDi Cinema™ video format converter, 10-bit performance in the device, and the Advanced Color Management (3D) provide exceptional video quality. This exclusive level of video quality technology was previously only seen on Faroudja® Home Theater Systems but is now available in a single-chip solution.

The FLI8538 also comprises an integrated Analog Front End (AFE) that includes triple ADCs and an integrated cross-point switch. The flexible AFE ensures simple PCB design with direct connections to TV tuners and input video connectors. In essence, the FLI8538 is the only device needed for a single LCD TV chassis supporting worldwide standards. For regional variations, only a connector and firmware change are required. The integrated VBI dataslicer and decoder remove the need for external components resulting in significant cost reduction. The FLI8538 supports many worldwide VBI standards for applications of Teletext, Closed Captioning, V-Chip, and other VBI services.

The FLI8538 can also be used as part of a digital TV solution that requires the proven Faroudja® DCDi Cinema™ video performance.

An embedded microprocessor and a versatile OSD in a single device will facilitate rapid development of a reliable and attractive product. The FLI8538 utilizes the common Cortez family firmware so migration is easy and effortless when moving across different hardware platforms within the Cortez family.

#### FLI8538 SYSTEM DIAGRAM



<sup>1</sup> Version 1.5 on-board support, version 2.5 with external memory

# FLI8538 FUNCTIONAL BLOCK DIAGRAM

