# Product Brief
# SDA 9389X

## "PIP IIIplus"
## Single-Chip Picture in Picture IC with Built-In Violence Blocking Capability

**The SDA 9389X integrates analog (clamping, ADC, DAC, RGB switch) and digital signal processing (color decoding, decimation, memory, output signal processing, data slicing etc.) on a single silicon.**

### Potential Application

The SDA 9389X "PIP IIIplus" is a cost-effective single-chip Picture in Picture IC that requires only a small amount of external components. It is suitable for the following applications:

- TVs for NTSC, PAL M and PAL N markets
- Display and surveillance equipment

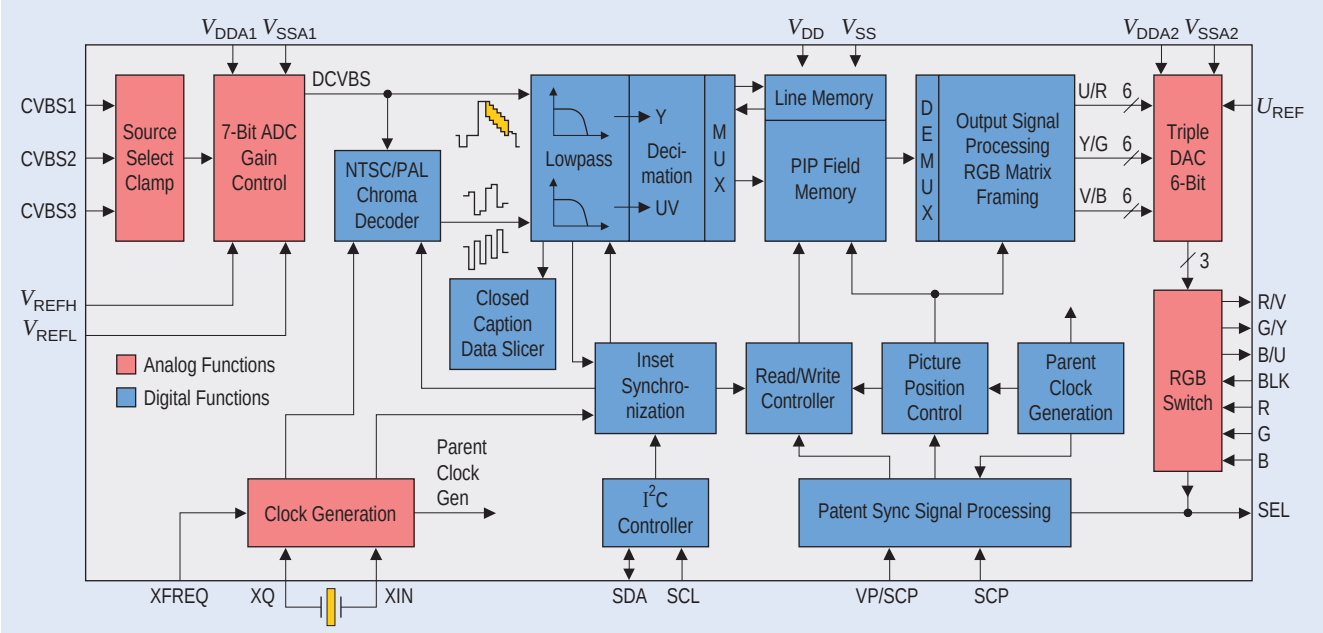
### Features

- Picture reduction to 1/9, 1/16 and 1/36 of original size
- Freely programmable positioning of PIP on the main picture as well as POP positioning
- PIP frame control including color, shape and width
- Format matching of PIP to 16:9 screen
- Digital signal processing for picture quality optimization
- Three CVBS inputs; analog YUV or RGB output
- Integrated high speed video switch for inserting an external RGB source onto the screen (i.e. OSD)
- Acquisition and filtering of closed caption data to achieve violence blocking
- Display on VGA screen possible
- $I^2C$-Bus control
- Full HW and SW compatibility to SDA 9388X
- Compatibility to PIP IV
- 0.5 µm CMOS technology
- P-DSO-28 package

### Documentation and Support Package

- Data sheet
- Technical articles
- PIP module and interface board for evaluation
- SIMON Software for Windows based PC to control evaluation boards via $I^2C$ Bus
- SIMON interface module
- Auto demo package for demonstration

## SDA 9389X Block Diagram



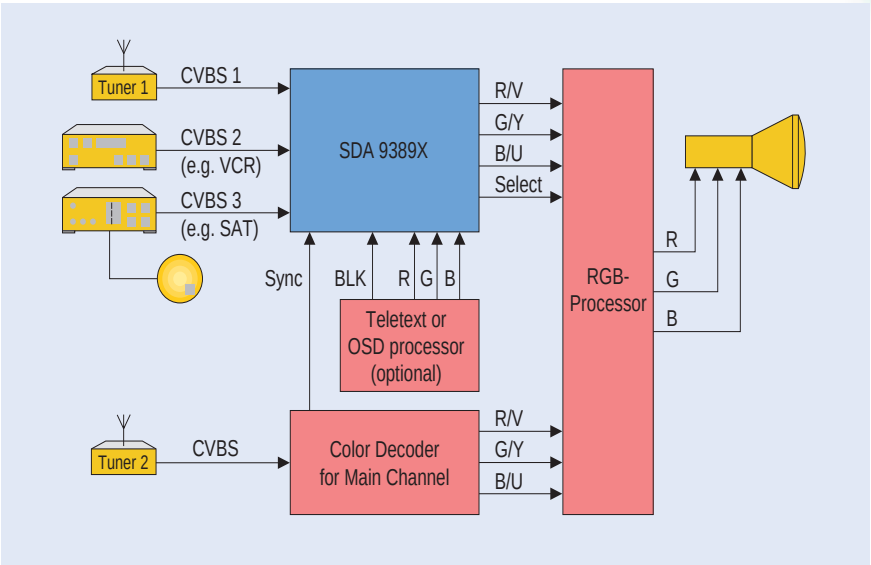

**The SDA 9389X integrates different functional blocks on a single chip**

- Signal clamping and 7-Bit AD Converter
- NTSC/PAL M/ PAL N Chroma decoder
- Data slicer
- Decimation logic
- 72-Kbit field memory
- Output signal processing, e.g. peaking
- Triple 6-Bit DA Converter
- RGB Switch
- SYNC processing/generation and memory control logic

### Availability

**Samples of the SDA 9389X are available for evaluation with complete documentation. Infineon Technologies' highly experienced engineering support team as well as our worldwide FAE network can assist you with your design in work. Please contact your local Infineon Technologies office for further details.**

## SDA 9389X Application Example




How to reach us:

**http://www.infineon.com**

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