

SiI9587-3 HDMI® 1.4a Port Processor

300MHz Port Processor Featuring HDMI® 1.4a, MHL™ Technology and Silicon Image's InstaPort™ S Technology

The SiI9587-3 is an advanced HDMI 1.4a port processor that supports 300MHz operation. It is ideally suited for DTVs, A/V receivers and switching systems designed to send or receive high frame rate (1080p 3D @ 60Hz) or 4K content. The SiI9587-3 incorporates Silicon Image's industry-leading InstaPort™ S technology, which allows manufacturers to build DTVs that switch HDMI input ports in one second, and is also compatible with the growing number of MHL™- (Mobile High-Definition Link) enabled smartphones and tablets.

Applications

- ◆ DTVs
- ◆ AVRs
- ◆ Home Theater-in-a-Box

Key Features

- ◆ Four 300MHz HDMI input ports
- ◆ Supports all mandatory 3D formats in HDMI 1.4a Specification
- ◆ InstaPort™ S technology
- ◆ MHL technology support
- ◆ Built-in HDCP engines (encrypt/decrypt)

Benefits Summary

- ◆ Reduces BOM cost and development time
- ◆ 300MHz speed meets requirements of advanced CE products (4K and 3D TVs and gaming systems)
- ◆ Connect, control and charge the latest MHL-enabled mobile devices

Industry-Standard Compliance

- ◆ HDMI 1.4a
- ◆ DVI 1.0
- ◆ EIA/CEA-861E
- ◆ HDCP 1.4
- ◆ MHL 1.1

HDMI Inputs

- ◆ Four HDMI 1.4a input ports
- ◆ Audio Return Channel on one port
- ◆ Content Type detection and InfoFrame on all ports
- ◆ InstaPort™ S fast HDMI port switching
- ◆ Resolutions up to 1080p @ 120Hz, 1080p 3D @ 60Hz, and 4K @ 30Hz
- ◆ Deep Color support up to 36 bits
- ◆ Integrated DDC and EDID NVRAM for HDMI and VGA ports
- ◆ AVI, Audio InfoFrame, and video input resolution detection for all input ports, accessible port-by-port
- ◆ Automatic output mute and unmute based on link stability, such as cable connect/detach
- ◆ Repeater function supports up to 127 devices

MHL Input

- ◆ One auto-sensing, auto-switching MHL input port
 - MHL can be assigned to any port
 - Converts MHL into HDMI-compliant TMDS
 - 24-bit color depth

- Input resolutions up to 1080p @ 30Hz or 720p/1080i @ 60Hz

System Operation

- ◆ Register-programmable via slave I²C interface

Content Protection

- ◆ InstaPort™ S fast port switching pre-authenticates and decrypts HDCP
- ◆ Integrated HDCP cipher decryption engine
- ◆ Built-in HDCP BIST (self-test)
- ◆ Pre-programmed HDCP keys
- ◆ Hardware-based HDCP error detection and recovery minimizes firmware intervention

Power Management

- ◆ Low standby power mode with auxiliary power mode for EDID support

Package

- ◆ 88-pin, (10mm X 10mm), 0.4mm pitch QFN

Also Available as SiI9587, with 225MHz HDMI

