SiI 9020
HDMI Transmitter



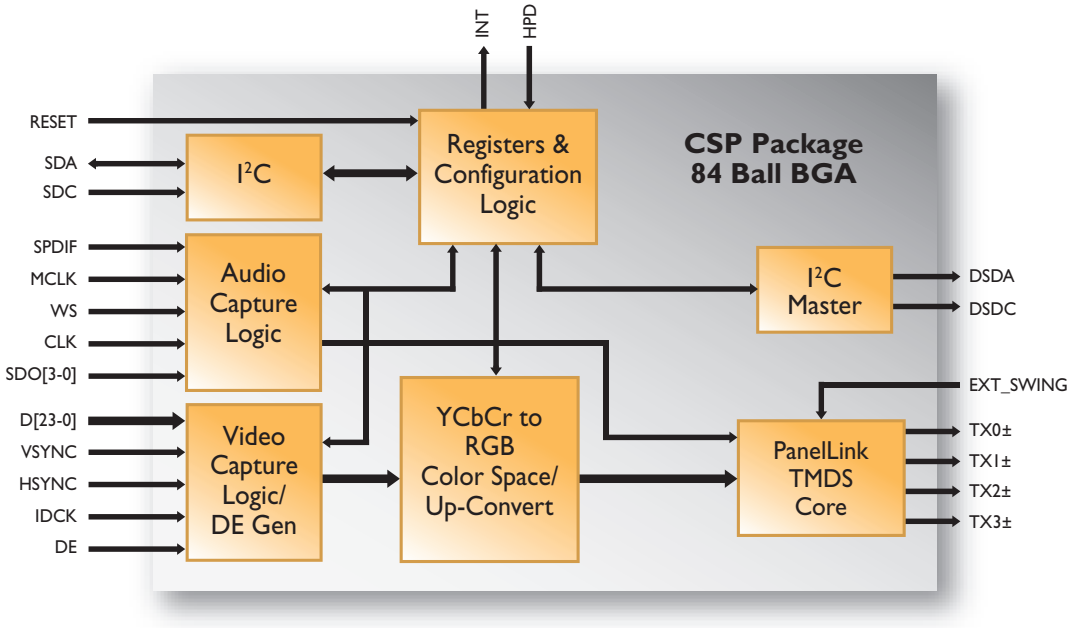
Applications

- HDV Camcorders
- Digital Still Cameras
- Mobile Electronics

Silicon Image brings exciting high-definition interface capabilities to the mobile electronics market with the first discrete HDMI transmitter designed specifically for digital cameras and HDV camcorders, the SiI 9020™. HDMI has already brought the highest quality digital audio and video to millions of consumer home theater systems. Now consumers will be able to enjoy their own home video recordings using HDV camcorders and digital cameras that use the SiI 9020.

As with its original industry leading effort to develop the first HDMI semiconductors, Silicon Image is the first company to develop an HDMI transmitter meeting the specific power and packaging needs of the mobile market. In order to fit into the tight constraints of today's highly integrated mobile electronics, the SiI 9020 utilizes an 84-ball BGA in a 6 mm x 6 mm chip-scale form factor. Even in this diminutive package, the SiI 9020 does not scrimp on performance. The SiI 9020 supports resolutions from standard definition 480i/p and 576i/p all the way to high-definition 720p and 1080i, the highest resolution supported by HDV camcorders.

Silicon Image HDMI products are all designed to be compliant with the latest version of the industry leading HDMI standard, and the SiI 9020 is no exception — it is fully compliant with HDMI 1.2. The SiI 9020 is extremely easy to design into new products with a rich set of hardware and software tools.



SiI 9020 Features

HDMI Transmitter

Compliance

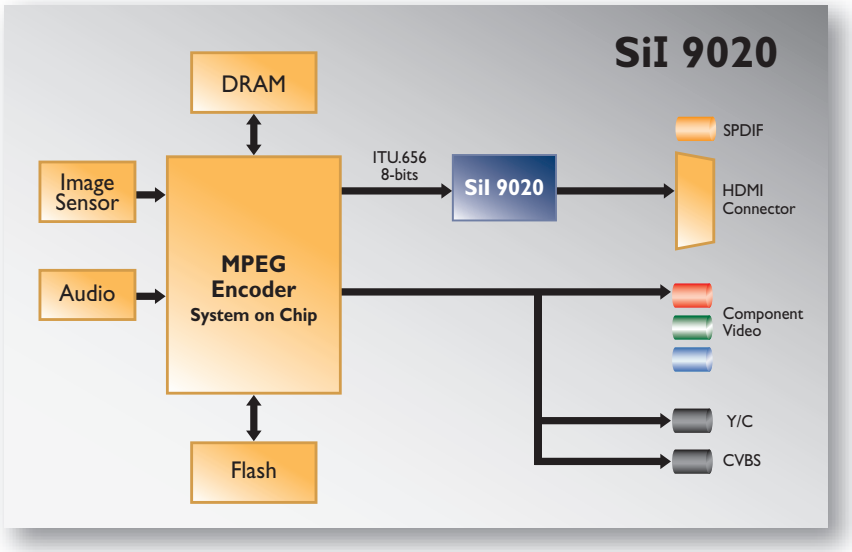
- HDMI 1.2
- DVI 1.0
- EIA/CEA-861B
- HDCP 1.1

Digital Video Output

- Integrated TMDS PanelLink® core
- Supports DTV (480i/576i/480p/576p/720p/1080i) resolutions
- Supports PC(VGA/XGA/SXGA/WSXGA) resolutions
- Flexible video input interface supports HD MPEG decoders
  - 12/24-bit RGB YCbCr 4:4:4
  - 16/20/24-bit YCbCr 4:2:2
  - 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.601 & BT.656)
- Integrated YCbCr ↔ RGB color space conversion
- 4:2:2↔ 4:4:4 up-converter
- Programmable Data Enable (DE) generator

Digital Audio Output

- DVD-Audio support thru 4xI2S inputs
- Supports 2-channel 192kHz or 8-channel 96kHz
- Supports IEC60958 2-channel PCM or IEC61937 compressed audio (Dolby Digital, DTS, etc.)
- Industry-standard S/PDIF input



System Operation

- Register-programmable via slave I²C interface
- Master I²C simplifies system design
- Flexible interrupt registers with interrupt pin
- Monitor detection supported through hot plug and receiver detection

Power Management

- 1.8V core provides low-power operation
- Flexible power-down modes

Package

- 84 ball BGA (6 x 6 mm footprint)

Silicon Image's SiI 9020 Software and Documentation

Software

- 9020 Firmware

Documentation

- Programmer's Reference Application Note

Part Number - SiI9020CSU

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