

Drive Recorder IC Dual Camera Controller with JPEG Encoder



DESCRIPTION

S2S65A00 is an image controller IC that supports the optimum dual camera for applications such as drive recorder and vehicle-mounted camera. It has camera interfaces and JPEG encoder functions, as well as CF, SD memory, USB (device) interfaces, and embedded 8-ch ADC. A drive recorder or a vehicle-mounted camera set can easily be configured by connecting S2S65A00 with camera modules, SDRAM, an external storage (CF or SD memory card), and Flash ROM containing firmware. In addition, S2S65A00 is equipped with GPIO and I²C bus, which enable you to configure cameras and control external devices.

FEATURES

- One-chip solution, which enables you to construct system at low cost.
- Provides JPEG encoding by using 30 fps @VGA hardware (ISO 10918 compliant).
- Up to two camera modules can be connected.
- Each camera module has two hardware JPEG encoders.
- Provides moving-object detection function to support motion detection.
- Supports I²S for voice data.
- Has Compact Flash interface that supports CF Memory Cards.
- Has Compact Flash interface that supports wireless LAN interface (802.11b/g).
- Has SD memory interface that supports SD memory card connection.
- ARM720T Rev 4.3 is built-in (with 8KB cache) 50MHz
- Incorporated USB 2.0-HS (Device) function enables the connection with PC.
- Embedded 8-ch ADC enables the connection with various analog sensors.
- Equipped with the timer for event counter.
- Memory bus: 2 ports (16bit-Bus: FROM/SRAM, 32bit-Bus: SDRAM).

SPECIFICATIONS

Camera/JPEG Encoder

Camera interface	8-bit parallel interface × 2 ports 2 camera modules can be connected Pixel clock frequency for inputting camera data is less than 2/3 of CPU clock frequency.
Resolution	VGA, QVGA, CIF, and QCIF
JPEG encoder	Hardware encoder × 2 Processing power of 30 fps @VGA or more (when 1 camera module connected).
Camera input data format	YUV4:2:2 progressive (both ports)
Built-in memory	For CPU Work/JPEG processing: Up to 56KB (32KB max. for CPU Work)

External Storage

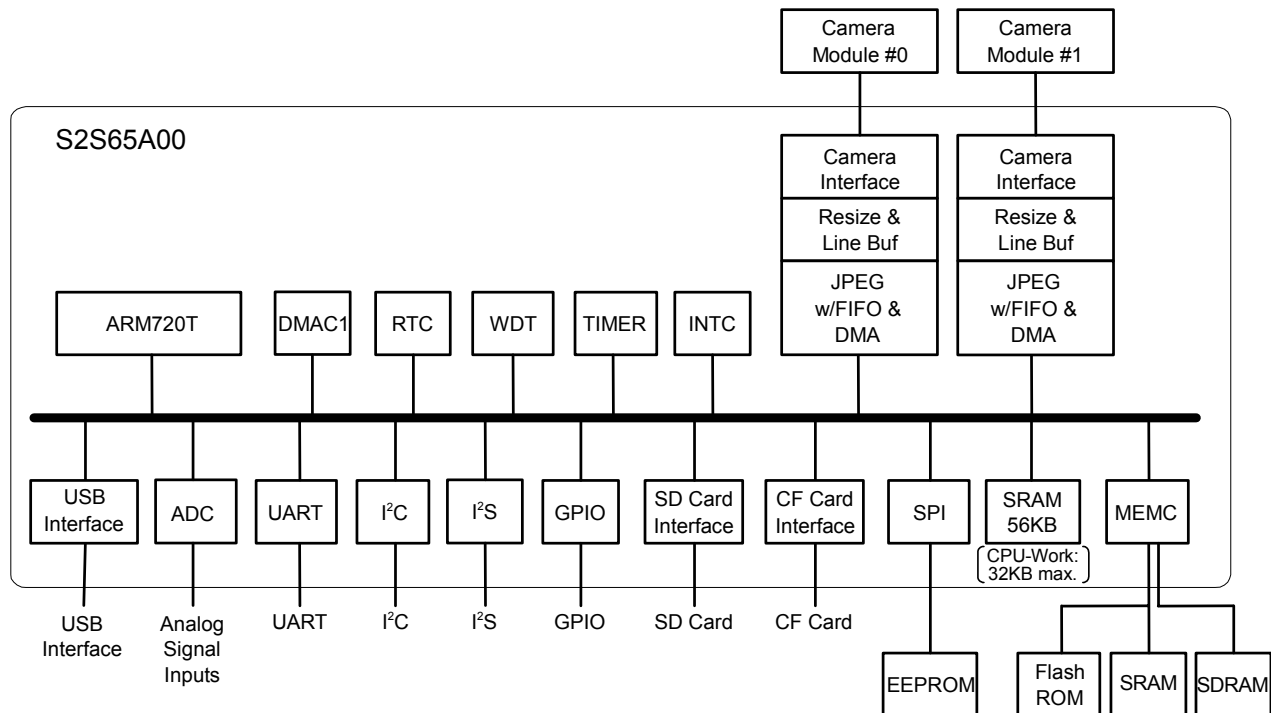
Compact Flash Card interface	Complies with CF+ spec. Rev.1.4. Also supports True IDE mode.
SD Memory interface	Complies with SD Memory Card Physical Layer Spec.ver.1.0. Supports 1-bit/4-bit interface.

Others

Moving object detection	Detects 4 × 4 area of an image.
General-purpose I/O	82 pcs (at max.)
Serial EEPROM interface	Clock synchronous
Serial interface	UART: Software compatible with 16550 × 3 channels
I ² C bus	Master (for camera control or general-purpose)
I ² S bus	For input/output of voice/audio
USB 2.0-HS (Device)	For communication with PC
ADC	Ch:8/ Resolution: 10bit/ ConversionTime:10us
External Flash ROM	UP to 16MB (Static memory available: up to 16MB)
Expandable memory	SDRAM 2 – 256MB (separated from SRAM-BUS)
Supply voltage	1.8V (core), 3.3V (I/O), 2.4-3.6V (camera I/O)
Package	PFBGA-280 pin (PFBGA16U-280:16 × 16 × 1.2 mm, 0.8mm ball pitch)

S2S65A00

■ BLOCK DIAGRAM



■ I/P CONVERSION IC (S2S65P10) FOR MULTIMEDIA VIDEO INPUT

S2S65A00, combining as a chipset with the I/P conversion IC (S2S65P10) that is used for the input of multimedia video, can connect with eight camera sets (each consisting of camera module + NTSC/PAL decoder) at the maximum.

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