Aptina™ Automotive Camera Module

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AptinaTM Automotive Camera Module (front)

Description

The reference design is an automotive camera module solution with Aptina image sensor and processor, and TI FPD-Link III serializer. The module features the AR0132AT 1.2Mp image sensor, the AP0101AT image signal processor (ISP) from Aptina, and the LM34919C, TPS62231 buck regulator and DS90UB913A-Q1 FPD-Link III serializer from Texas Instruments. The combination offers a compact two-board automotive camera solution. Only one single coaxial cable is needed for the camera data/control signal transmission and input power supply.

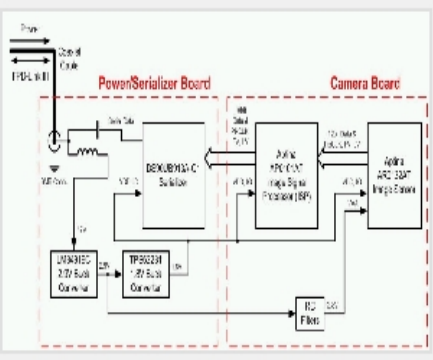
Features

- A complete automotive camera module reference design
- Small form factor, two 32x32mm stacked boards
- Single coaxial cable connection, input power and FPD-Link III signal on one coaxial cable
- Wide operation range from 4.7V to 42V, suitable for 12V car battery system
- Aptina AR0132AT 1.2Mp image sensor, AP0101AT image signal processor

Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

Schematic/Block Diagram

Quickly understand overall system functionality.



Download Schematic

Test Data

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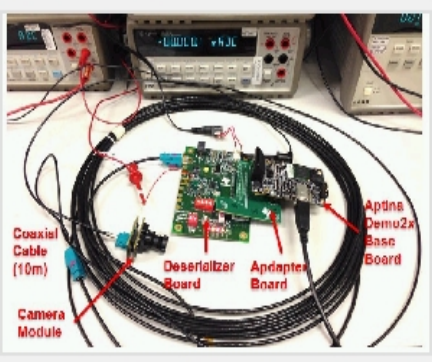

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Design Files

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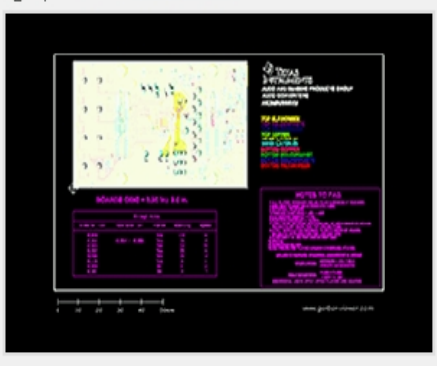

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

TI Devices (3)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
DS90UB913A-Q1	25-100MHz 10/12-Bit FPD-Link III SERIALIZER	Display & Imaging SerDes	Sample & Buy	View Design Kits & Evaluation Modules
LM34919C-Q1	Automotive 4.5-50V Wide Vin 600mA 2.6MHz Ultra-Small Constant On-Time Non-Synchronous Buck Regulator	Converter (Integrated Switch)	Sample & Buy	View Design Kits & Evaluation Modules
TPS62231	3 MHz Ultra Small Step Down Converter in 1x1.5 SON Package	Converter (Integrated Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TPS62231	USON (DRY) | 6	Download	-

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

Step 2: Download the Symbol and Footprint .bxl file.

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Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00098 Test Results		PDF	683	27 Feb 2014	340

Selection Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
Automotive Wide VIN DC/DC Brochure		PDF	3565	08 Jul 2014	918

Design Files (7)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00098 Power and Serializer Gerber		ZIP	473	27 Feb 2014	96
TIDA-00098 Camera Board Gerber		ZIP	444	27 Feb 2014	145
TIDA-00098 Power and Serializer BOM		PDF	212	27 Feb 2014	104
TIDA-00098 Camera Board BOM		PDF	206	27 Feb 2014	188
TIDA-00098 Block Diagram		PDF	66	27 Feb 2014	356
TIDA-00098 Power and Serializer Schematic		PDF	180	27 Feb 2014	273
TIDA-00098 Camera Board Schematic		PDF	104	27 Feb 2014	400

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