

Product Brief

T8ER4 8-megapixel CMOS Image Sensor

Highlights

- Major worldwide producer of image sensor technology with more than 25 years of experience.
- Many of the Toshiba image sensors offer advanced BSI technology and ultra-compact chip scale camera module packaging technology.
- Utilizes a proprietary square-pixel design that enables exceptionally high-quality images with low-power consumption.
- Offers a wide range of sensors from VGA to 14-megapixels with higher resolutions in development.
- Makes ongoing investments in capacity and its robust supply chain is a result of tight procurement relationships and experience in designing, developing and manufacturing image sensors.

Description

The Toshiba T8ER4 is an 8-megapixel, low-power CMOS image sensor. The sensor's output format is 8-bit/10-bit raw data with a 1/2.5 inch optical format. Using a primary color filter, T8ER4 delivers excellent color reproduction and its 1.75 inch square-pixel design further improves image quality.

Applications

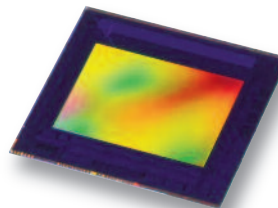
- Cellular and Smartphone

Features

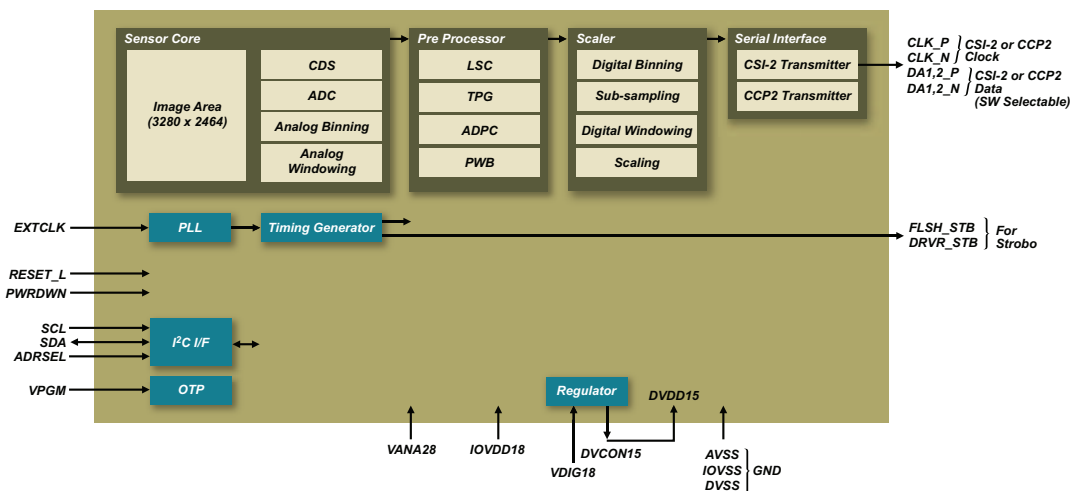
- 1/2.5" 8M resolution (1.75 μm)
- Progressive scan
- 10-bit parallel output
- CSI-2 2lane or CCP2 serial output
- I²C interface
- Sub sampling: vertical and horizontal up to 1/9
- Built in phase lock loop (PLL)
- Lens shading correction
- Standby mode, power down mode
- Built-in regulator (1.5.V)

Specifications

- Optical format: 1/2.5"
- Pixel size: 1.75 μm x 1.75 μm
- Effective pixels: 3280 (H) x 2464 (V)
- Data formats: RAW 8-bits/10-bits, DPCM10-8
- Frame rate: 7.5fps @ full resolution
- Power supply:
 - Analog = 2.3 to 2.9V
 - Digital = 1.7 to 1.9V
 - I/O = 1.7 to 1.9V
- Power consumption: 440 mW
- Sensitivity: 737 mV/lx-s
- SNR: 33dB
- Dynamic Range: 64 dB
- Operating Temperature: -20 to +60°C
- Storage temperature: -30 to 85°C



T8ER4 System Block Diagram



Product Brief

Regional Sales Offices

NORTHWEST

San Jose, CA

TEL: (408) 526-2400

FAX: (408) 526-2410

SOUTHWEST

Irvine, CA

TEL: (949) 623-2900

FAX: (949) 474-1330

El Paso, TX

TEL: 915-771-8156

FAX: 915-771-8178

MIDWEST

Wixom, MI

TEL: (248) 347-2607

FAX: (248) 347-2602

Buffalo Grove, IL

TEL: (847) 484-2400

FAX: (847) 541-7287

NORTHEAST

Marlboro, MA

TEL: (508) 481-0034

FAX: (508) 481-8828

Parsippany, NJ

TEL: (973) 541-4715

FAX: (973) 541-4716

SOUTHEAST

Duluth, GA

TEL: (770) 931-3363

FAX: (770) 931-7602

www.Toshiba.com/taec

- The information contained herein is subject to change without notice.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of TOSHIBA or others.
- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situation in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc.
- The Toshiba products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These Toshiba products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc. Unintended usage of Toshiba products listed in this document shall be made at the customer's own risk.
- The products described in this document may include products subject to foreign exchange and foreign trade laws.
- The products contained herein may also be controlled under the U.S. Export Administration Regulations and/or subject to the approval of the U.S. Department of Commerce or U.S. Department of State prior to export. Any export or re-export, directly or indirectly in contravention of any of the applicable export laws and regulations, is hereby prohibited.

MIPI is a licensed trademark of MIPI Alliance, Inc. in the U.S. and other jurisdictions

TOSHIBA
Leading Innovation >>>

T8ER4 8-Megapixel CMOS Image Sensor