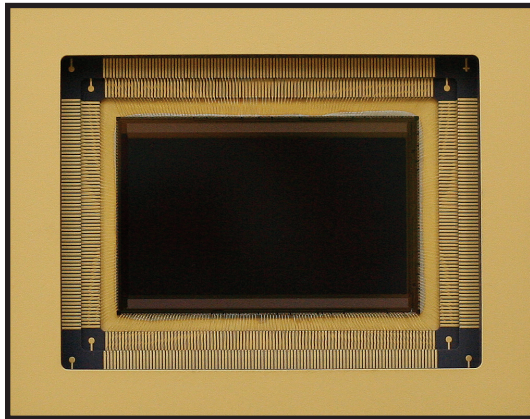


DYNAMAX 35™ ULTRA

ULTRA-HIGH RESOLUTION COLOR/MONOCHROME VIDEO SENSOR



DYNAMAX-35™ Ultra Sensor

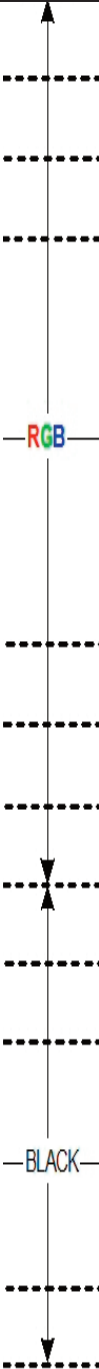
The DYNAMAX-35™ ULTRA sensor is a multimode video sensor capable of operating up to 120 frames-per-second at 6x HDTV resolution (~12 Mega-Pixel) and up to 30 frames-per-second at full resolution (~37 Mega-Pixel), with a choice of monochrome or color pixels. Two sets of RGB high-speed LVDS ports (six sets of 13-bit LVDS ports, each capable of operating at a speed up to 330MHz) operate in parallel to achieve the high frame rate. The DYNAMAX-35 ULTRA sensor features several modes of readout including: Normal mode (3-Pixel Binning mode), Full Resolution mode, Oversampling mode, High Dynamic Range(HDR) mode, Vertical Flip mode, Region-of-Interest (ROI) mode, etc.

The DYNAMAX-35 ULTRA sensor is designed to capture high quality, low noise video, while consuming a modest power of 4W typical. Very high gain uniformity resulting in low overall fixed pattern noise (FPN) is also assured with the patented Active Column Sensor™/ACS® PD array, Distributed Analog to Digital Converter (D/AD™) and XtremePIX® sensor technology.

XtremePIX®

KEY FEATURES

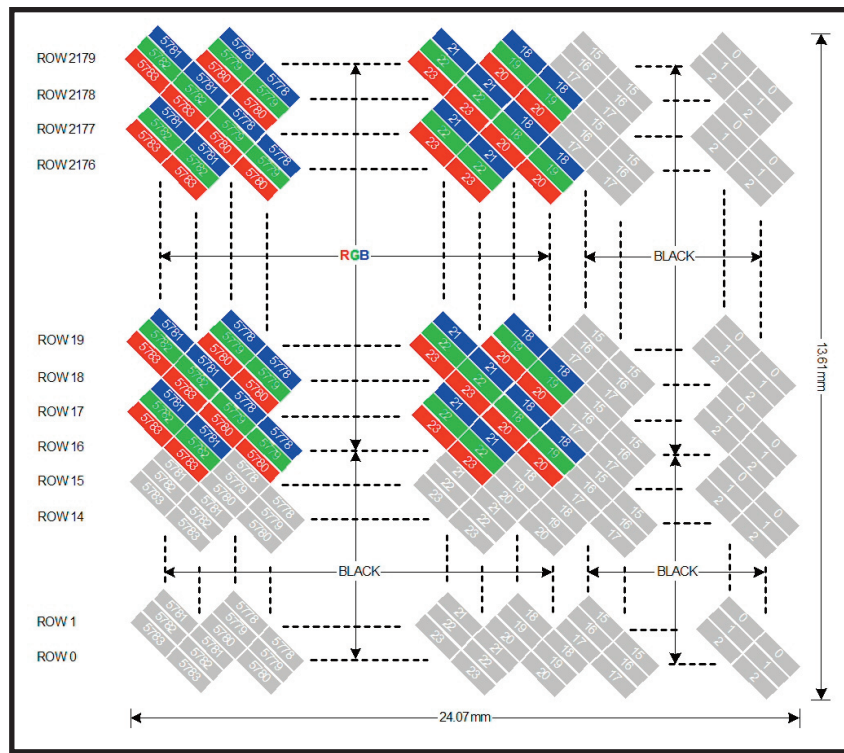
- **HIGH SPEED**
 - Up to 120fps at 6x HDTV resolution
 - Even higher speeds in Region-of-Interest (ROI) mode
 - Two sets of RGB high-speed LVDS ports (six 13-bit ports) at up to 330MHz
- **HIGH RESOLUTION**
 - 18x HDTV full resolution
 - Features 37,827,360 pixels, each 2.94µm x 2.94µm
 - Fill factor ~ 70% (with microlens)
- **HIGH SENSITIVITY AND DYNAMIC RANGE**
 - 16 – 80 µV/electron
 - > 1.10V full scale range
 - > 60dB dynamic range in Normal mode
 - > 100dB dynamic range in Oversampling and High Dynamic Range mode
- **MULTIPLE OPERATING MODES**
 - Variable bit-depth A-to-D: up to 14-bits
 - Normal mode (right-to-left, bottom-to-top): 3/6-Pixel Binning mode
 - Full Resolution mode
 - Oversampling mode
 - High Dynamic Range (HDR) mode
 - Vertical Flip mode (right-to-Left, top-to-bottom)
 - Region-of-Interest (ROI) mode
 - Power Down, Tri-State & Test modes
- **EASE OF APPLICATION**
 - 3.30V Analog and 3.3V/1.80V Digital core for low power
 - LVDS I/O for high speed
 - Tri-State LVDS output ports
 - Pb-free package



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PIXEL ARRAY: NORMAL MODE (3-PIXEL BINNING MODE)



Note: Each binned pixel shown is composed of 3 diagonally-adjacent individual pixels of the same color

ARRAY DATA

PIXEL TYPE	XtremePIX® sensor technology
ARCHITECTURE TYPE	Active Column Sensor™/ACS® and D/AD™
PIXEL ARRAY SIZE	NORMAL MODE: 5766 H x 2164 V (RGB) = 12,477,624 optical pixels 5784 H x 2180 V (RGB + Black) = 12,609,120 total pixels FULL RESOLUTION MODE: 5766 H x 6492 V (RGB) = 37,432,872 optical pixels 5784 H x 6540 V (RGB + Black) = 37,827,360 total pixels
PIXEL SIZE (effective)	2.94µm H x 2.94µm V square rotated 45 degrees
FILL FACTOR (with microlens)	~ 70%
IMAGING AREA	RGB + Black: 24.07mm H x 13.61mm V

APPLICATIONS

- Various HDTV video formats with Region-of-Interest (ROI), Pixel-Skip, HDR and Pixel-Binning modes
- Machine vision & scientific research
- Biometrics, security, surveillance & military

* This product may be covered under one or more of the following patents as well as others pending:
6,965,407, 6,911,639, 6,693,270, 6,633,029, 6,590,198, 6,084,229, 6,818,877, 7,045,758,
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