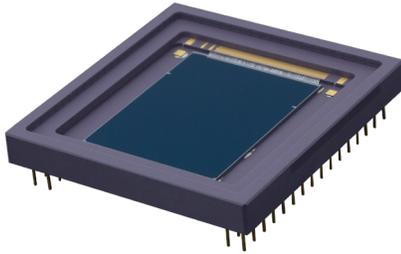


# Capella

## General Purpose Imager for Space Applications



### Key Features

- » An easy to use general purpose imager for space applications
- » Low noise
- » High full well capacity
- » On-chip ADC, programmable from 8 to 14 bits
- » Four LVDS data outputs at 200 MBps
- » Back-illuminated sensitivity and spectral response
- » Excellent image quality
- » Pin count minimised by on-chip timing control
- » Anti-reflective coatings for UV to NIR

### Typical Applications

- » Earth observation
- » Remote sensing
- » Planetary exploration
- » Space science

Options suited to New Space applications available upon request.

Teledyne Imaging has extensive heritage in providing standard and customised image sensors for space applications. Please discuss any requirements for customised variants to meet your needs.

## Capella

Capella is a highly flexible CMOS image sensor platform designed for a large range of space applications. The family consists of two main variants, one for use where low noise is critical and the second designed for high signal applications. Both of these variants can be combined with a number of other options including package design and AR coatings.

Key benefits include low noise and high full well capacity sensor variants, back-illumination, with on chip analogue to digital conversion (ADC) and is therefore easy-to-use.

Pixel read timing is set by an on-chip sequencer to simplify use and to reduce pin count.

A column parallel ADC is used to quantise each row of pixels in turn and is controlled by its own sequencer. Resolution can be set from 8 to 14 bits.

Four low-voltage differential signalling (LVDS) channels output the image data and are controlled by the readout sequencer to scan along each row in turn. Two LVDS synchronisation channels allow accurate data sampling.

All configuration settings are programmed over an SPI. This includes shutter mode, ADC resolution and bias current values. Different package options are available.

Parameter	Capella
Number of pixels	2048 x 2048
Pixel size $\mu\text{m}$	10 x 10
Image area mm	20.48 x 20.48
Operating mode	Rolling Shutter / Global Shutter
Frame rate	15fps @ 12 bit / 5fps for 14 bit

**\* Detailed information available upon request**

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