ANDANTA GmbH • Ilzweg 7+9 • 82140 Olching
Tel: ++49 (0) 8142 41058-0 • Fax: ++49 (0) 8142 41058-29
e-mail: epost@andanta.de • Internet: www.andanta.de

Press Release

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Pyroelectric Linear Arrays up to 512 elements

New available at image sensor specialist ANDANTA are now pyroelectric linear arrays as hybrid sensors with up to 512 elements and integrated CMOS multiplexer for the mid- and far infrared spectral range.

The detector elements are made of lithium tantalate ($LiTaO_3$) with the mechanical dimensions of 40 or 90 µm width and 100 to 1000 µm height.

The CMOS-multiplexer includes low-noise preamplifier for each pixel, analogue switch and output amplifier. The preamplifier transforms the generated carriers of each pixel into a signal voltage.

The responsivity of the standard-sensor reaches 0,62 MV/W, the noise equivalent power amounts to 1,1 nW and the detectivity is as high as 10^9 cm √Hz/W.

For users working with small signal intensities and high modulation frequencies, the responsivity can further be increased by a factor of 10 at low thermal crosstalk and with improved Signal-to-Noise ratio.

The pyroelectric chip and the read out integrated circuit are integrated into an hermetic metall package with IR-filter on top, determining the spectral response characteristics. Various filter materials are selectable for spectrally adapting the sensor to the application.

As with all pyroelectric sensors the IR radiation to be measured has to be modulated (with max. 512 Hz in this case).

The devices feature high long-term stability, very low noise, low microphony and easy customization.

Typical application areas for the pyroelectric linear arrays include spectroscopy, non-contact temperature measurements and laser beam analysis, each in the mid- and far infrared.

For further information please consult the ANDANTA-Website under www.andanta.de .

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ANDANTA – Press Contact: **Vision 2010, Stuttgart: Hall 6, Stand 6 A55/10**

Christian Lochmann Tel: 08142 41058-0 e-mail: christian.lochmann@andanta.de