

# CHIPS

Newsletter October 2013



## CEO's Note ....

Dear Readers,

It's unbelievable, how many applications with 3D-TOF sensors with one or just a few pixels are possible. When I started research for 3D-TOF in the year 1985, I only had a safer elevator door in mind. At this time, mechanical safety edges were used to protect the lift passengers when passing through the doors. Ok, some more applications seemed to be possible as well, e.g. car driver seating position detection, light barriers with background suppression, and a few more. However, today many other applications found their way finally to use 3D-TOF sensors. People and goods counting, stock level measurement in vending machines, automatic floor cleaners, patient positioning in MRI scanners, obstacle recognition for cars, liquid level measurement and leak detection, landing assistance for helicopters, formation flight of satellites, object size measurement, automatic toilet flush, automatic tap water, room and space monitoring in security appli-

cations, robot control, safety on automatic swing doors, automatic escalator start for energy saving, road and sidewalk illumination control on demand, bus door safety, various applications for forklift safety, touchless office and home lamp control, touchless control panels, gesture recognition, and many, many more. 3D-TOF has



definitively arrived in the market and is the future technology for optical sensing applications.

To me it's fantastic to see that more than 20 years of research plus several years of technology and product development now pay back.

*Beat De Coi*

## epc600/610 Product Showcase

Our epc600 and epc610 TOF products were released just recently. But the interest in these products is tremendous and we are already seeing the first customer products, some of them even approaching development maturity. Applications fields include industrial automation, robotics, home automation, traffic management, security and numerous more.

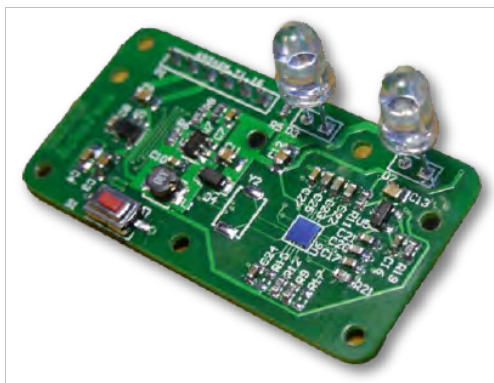


Figure 1: Generic epc600 camera module

The high integration grade of our TOF chips lends hand to a rapid hardware development. LEDs, a small micro controller and few passive components is all that is needed to complete the electronic hardware for a complete TOF camera system.



Figure 2: A safety category 2 sensor based on epc610

Also software development requires significantly less effort compared to other distance measurement technologies. In stereo based systems, for example, a major part of the algorithms is needed to extract the distance information from the 2D image data. With our TOF chips, this is not required. The chip delivers the distance information directly. With these advantages, product development based on our TOF chips can be streamlined and time to market can be kept short.

The potential applications are numerous. With our TOF devices we deliver a generic sensor basis that is able to detect distances from zero to several tens of meters or more with a distance resolution in the millimeter range. Time to think your product portfolio over and switch to TOF imaging. Inquire today with us or one of our distributing partners!



Figure 3: Camera module for industrial automation

## New Product: epc200 Photo Diode

Our epc3xx product line provides highly flexible photodiode arrays for numerous applications. Although these detectors are designed as differential matrix/array diodes, they can also be used as single photodiode detector by connecting the individual diodes fields appropriately. However, due to their more complex nature, the cost of this line has not been really favorable when used as „simple“ photo diode. epc has clearly been missing an industrial photo diode to compete with the current market offerings for such commodity parts. That's what we created the epc200 for.

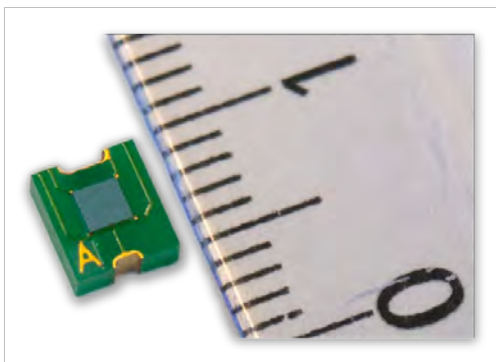


Figure 4: epc200 on PCB carrier

The epc200 is a high-sensitive, high-speed, low-cost photo diode for industrial optosensors, IR remotes, oximeters, smoke detectors and similar applications. It is designed to be used in reverse-bias mode, whereas the reverse bias voltage can be between 1.5 and 20 Volts. This device will allow the design of short to long range light barriers from a few millimeters up to tens of meters.

The diodes feature a very high quantum efficiency of 90% in the near IR range, a reverse breakdown voltage of up to 30 Volts and a response time down to less than 100ns. The advanced Chips Scale Package (CSP) makes this device ideal for miniaturized systems where a minimal component size is key. Last but not least it comes at a compelling price.

The epc200 has been released and is already available in sample quantities. In order to facilitate testing, we deliver the epc200 also assembled on PCB carriers with electrical contact fanouts (see Figure 4).

Inquire today with our distributors for your individual quote!

**„Vision without action is a daydream. Action without vision is a nightmare.“**  
Japanese Proverb

### Our distribution partners

<b>Switzerland</b>	<b>Ineltro AG</b> , 8105 Regensdorf, phone +41 43 343 73 00, <a href="http://www.ineltro.ch">www.ineltro.ch</a>
<b>Italy</b>	<b>Kevin Schurter SPA</b> , 20020 Arese MI, phone +39 02 30465311, <a href="http://www.schurter.it">www.schurter.it</a>
<b>Austria</b>	<b>Tecams Handelsagentur</b> , 2392 Sulz, phone +43 664 1206900, <a href="http://www.tecams.at">www.tecams.at</a>
<b>Israel</b>	<b>E.D.E Electronics Ltd.</b> , Netanya 42504, phone +972-9-8634000, <a href="http://www.ede.co.il">www.ede.co.il</a>
<b>Germany</b>	<b>Polytec GmbH</b> , 76337 Waldbronn, phone +49 7243 604-0, <a href="http://www.polytec.de">www.polytec.de</a>
	<b>Neumüller Elektronik GmbH</b> , 91085 Weisendorf, phone +49 9135 73666-0, <a href="http://www.neumueller.com">www.neumueller.com</a>
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