



**Before you act, listen.
 Before you react, think.
 Before you spend, earn.
 Before you criticize, wait.
 Before you pray, forgive.
 Before you quit, try.**

Ernest Hemingway

CEO's Note

Dear Readers,

It's really incredible how fast the number of design-wins with our products is growing. And it's not just TOF, it's also applications where the combination of a high QE over a wide wavelength range together with very high pixel and CCD speed is needed. During the last two years, applications I never considered to provide a solution have successfully been implemented with our products. This includes applications such as parking spot monitoring, infrastructure laser scanner, patient monitoring, auto-focus add-on for professional video cameras, orthopedic foot scanner, etc.

It's an almost endless variety of applications we never expected. But, even more important, the

community of engineers which are capable to implement TOF sensors is growing. Not many years ago, it was a group of rare species which understood the technology well enough. This is thanks to the recognition of universities and governments, that Photonics is a key technology in the future.

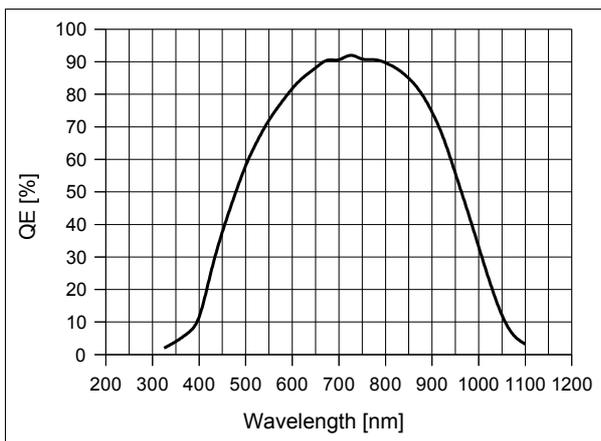
New bachelor and master courses have been established and already a significant number of students are matriculated. These young people will have a bright future if they make their way in Photonics. It's a fast growing technology important in nearly every field where products are designed and manufactured. Even coffee makers today use photonics to brew better coffee!

Beat De Coi

epc901 Application example: Spectrometer

The epc901 line imager is an ideal product for high resolution spectroscopy. It is extremely small with its 8x1.3x0.2mm CSP package. Due to the BSI technology with thick depletion layer, it offers a very high quantum efficiency from 350nm up to 1100nm wavelength in the NIR. The sensitivity is 5 to 10 time higher compared to competitors products.

500kfps in 4-image burst mode allows high speed spectral sensing and other applications where line imagers are needed.



Absolute QE of ESPROS' OHC15L Technology

Customers have successfully designed spectrometers with 0.1nm resolution. Their comments are always «fantastic, monotonous wavelength sensitivity with no wavelength modulation from UV to NIR thanks to the BSI process of ESPROS.» One additional feature should not be forgotten: The speed of up to 50kfps in continuous mode or



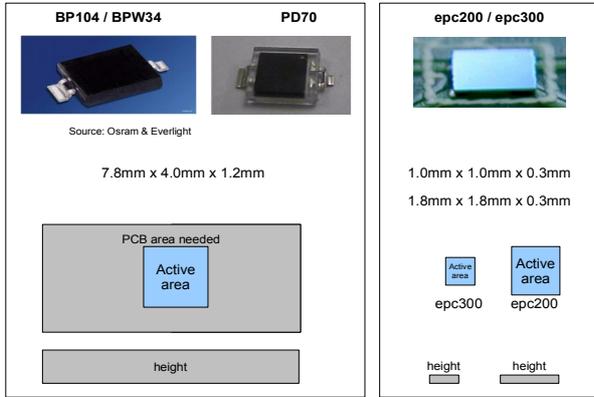
Many other applications are possible with the epc901 line imager:

- Linear and rotary encoder
- Triangulation
- Distance measurement
- Line camera
- Business card readers & portable scanners
- Multi-touch displays / electronic whiteboards
- Finger print readers
- Check & ticket readers
- Speed measurement
- Barcode readers

epc200, epc300-330: Tomorrow is now

Time-to-market – it is the keyword for the development of sensors and products of tomorrow. Ideas and dreams of future technologies can be helpful to shorten it. But – unfortunately, as long as no such components or products are on the market – these dreams remain story books like Jules Verne's or movies like Star Wars. Such dreams of tomorrow

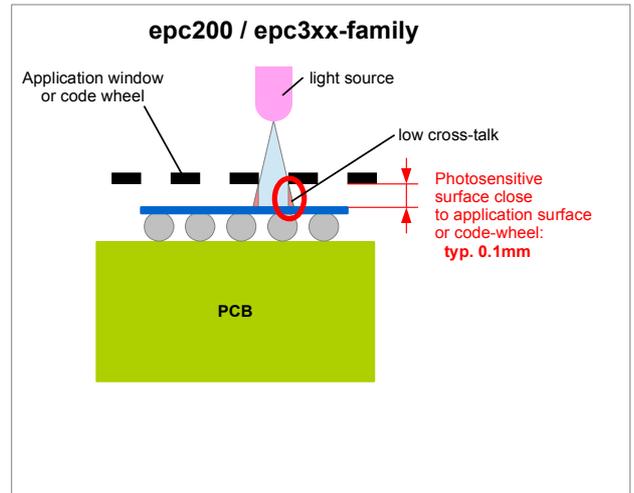
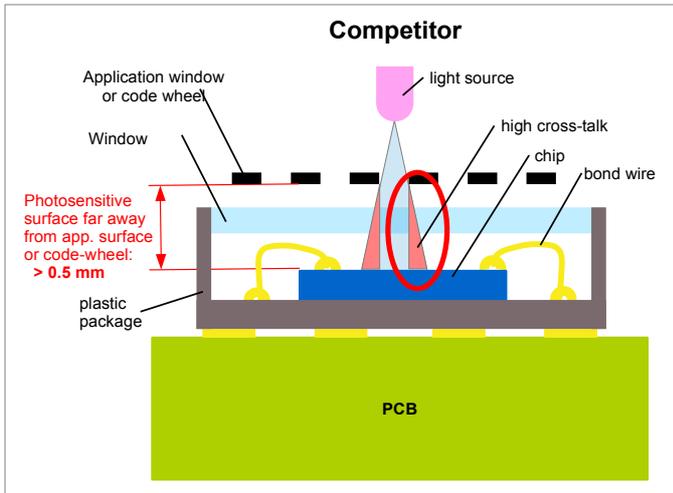
for commercial, or even more importantly, for professional and medical applications are wearable electronics, small size, slim, light weight sensors to build flexible electronics and many, many more ideas ...



ESPROS's slim design: Graphical comparison of needed size

Let us start the easy way: Most photonics developer are familiar with photo diodes like BPW 34, BP 104, PD70 or similar. These are very good, well known and approved products used satisfactorily in a very high number of applications. But still, even with use of SMD packages, They are quite bulky.

What will be nice: Having products with the same technical and price performance but smaller, slimmer, less weight? It helps to re-use a lot of developments already done which saves time and money. These are the exact USPs of the epc200 and epc3xx-family products. Check them out and you will be astonished by their tremendous potential.



The slim design allows to go closer with the photosensitive surface to the application as well having a lower module height

Today, only ESPROS offers as standard products photo diodes such as the epc200 and photo diode arrays like the epc300 – epc330 which are ready and prepared for the product developments of tomorrow. Designers can start now to immediately open and make real the future.

Compared to competitor products, e.g. BPW34 or BP104, they consume much less space with similar or even better performance. And, they are available in different sizes to match exactly to the application.

Item	Units	epc200	epc300	epc320	epc330	BPW34 BP 104	PD 70
Active area	mm ²	2.4	0.43	1.8	3.6	4.8	4.8
Photo current	µA	19	5	20	40	35	25
Sensitivity	A/W	0.61	0.61	0.62	0.62	0.62	0.6
Length x width	mm	1.7x1.7	1.0x1.0	2.0x2.0	4.0x2.0	7.8x4.0	8.9x4.0
Height	mm	0.24	0.24	0.24	0.24	1.2	1.2

Cross-reference table ($V_r = 5 V, E_c = 1 mW/cm^2$)

+++ interesting job opportunities on www.espros.com +++