XHB06.O.EC

XHB06 Photo Diode Evaluation Chips

X-FAB offers two evaluation chips for investigating of photo diodes in their XHB06 technology. They contain 6 different photo diodes.

Every diode is drawn in three different sizes 100µm x 100µm, 250µm x 250µm and 500µm x 500µm. All diodes are realized as photo diodes by etching down the isolator stack on top of the diode and depositing an anti-reflective coating (ARC) layer. The ARC layer is optimized for a wavelength of 430nm.

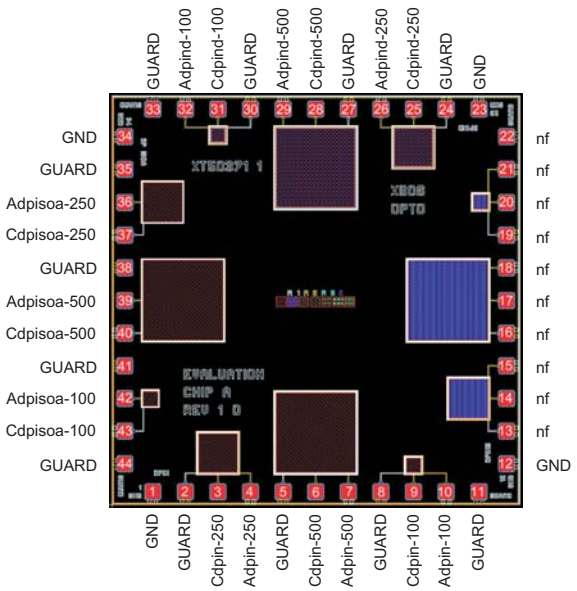
X-FAB will deliver these products in die form for demonstrating the opto-electrical performance of its XHB06 process and as reference for measurements by customers.

X-FAB does not intend to market XHB06 evaluation chips as standard products.

Features

Technology: XHB06	
Chip Size: 2500µm x 2500µm x 250µm	
ARC layer optimized for 430nm	
Photo Diodes:	
XHB06.O.EC.A	
dpin	n-epitaxial/p-substrate PIN diode
dpind	n-buried/p-substrate diode
dpisoa	p-diffusion/n-epitaxial (n-buried) diode
XHB06.O.EC.B	
dpinc2	n-epitaxial/p-substrate diode
dpine2	n-buried layer/p-substrate diode
dpinf2	n-buried layer/p-substrate diode

Pad Configuration



Dimensions

Chip Size
2500µm x 2500µm

Die thickness
250µm

Pad size
80µm x 80µm

Pad pitch
200µm

Ordering

Please contact your local sales manager at

http://www.xfab.com/en/about-x-fab/contact-overview/sales-worldwide/

for more detailed information or to order the XHB06.O.EC

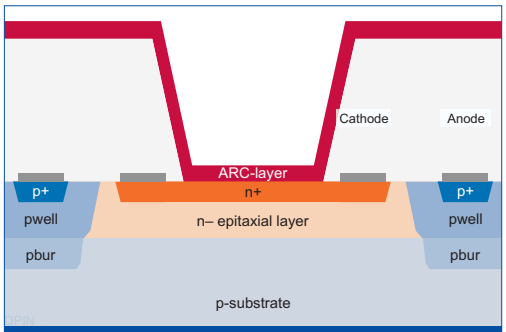
XHB06.O.EC.A

XHB06 Photo Diode Evaluation Chip

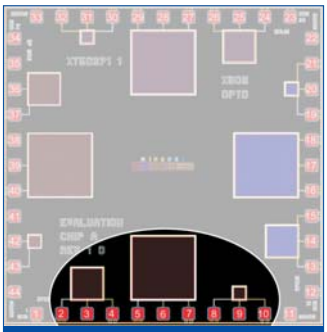
dpin [n-epitaxial/p-substrate diode]

The dpin PIN diode is created between the n-epitaxial and p-substrate layer.

dpin needs the OPTO and NOPBUR modules of XHB06 in addition to the CORE module.



Cross section of photo diode **dpin**

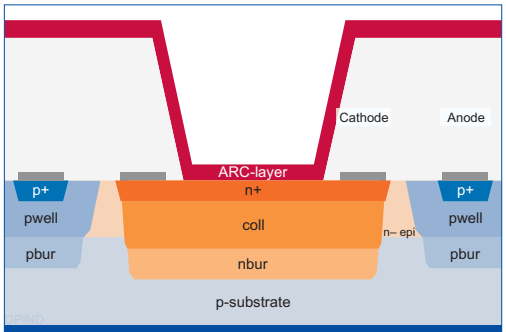


dpin location on the evaluation chip

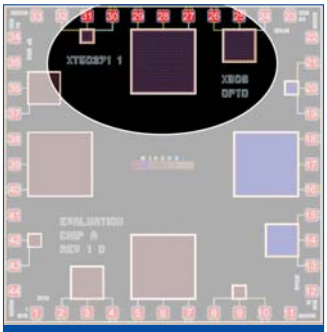
dpind [n-buried/p-substrate diode]

The dpind diode is based on the n-buried and the p-substrate layer.

It is mainly sensitive to the IR light.



Cross section of photo diode **dpind**



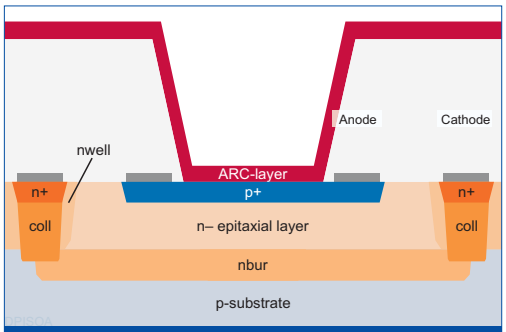
dpind location on the evaluation chip

dpisoa [p-diff / n-epi (nbur) diode]

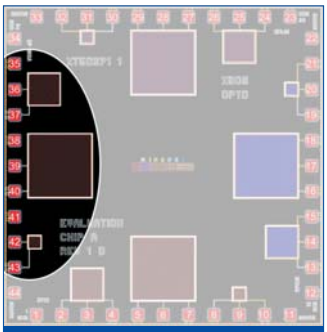
The dpisoa is an isolated diode built by the p-diffusion and the n-buried layer.

As the pn junction is close to the surface the diode is mainly sensitive to green light (450nm ... 550nm). IR-light is suppressed.

It is possible to use this diode in avalanche workmode.



Cross section of photo diode **dpisoa**



dpisoa location on the evaluation chip

XHB06.O.EC.B

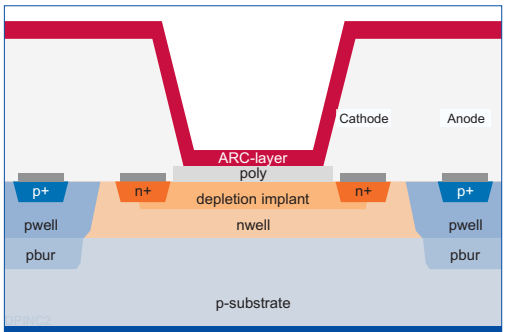
XHB06 Photo Diode Evaluation Chip

dpinc2 [n-epitaxial/p-substrate diode]

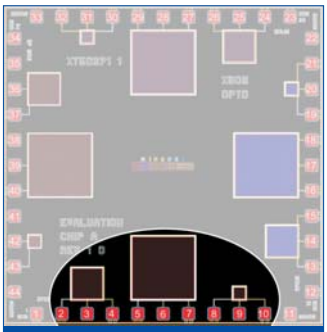
The dpinc2 diode is created between the n-epitaxial layer and the p-substrate.

The dpinc2 suppresses UV light and has a maximum sensitivity between 550nm and 900nm.

dpinc2 needs the modules NOPBUR, OPTO and DEPL.



Cross section of photo diode **dpinc2**



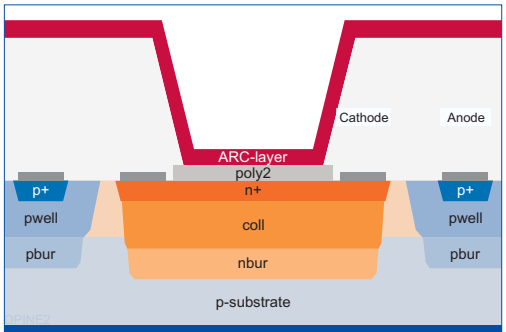
dpinc2 location on the evaluation chip

dpine2 [n-buried layer/p-substrate diode]

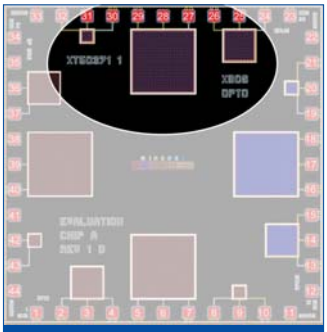
The dpine2 is a diode between the n-buried layer and the p-substrate.

The photo diode dpine2 suppresses partly UV and blue light (200nm ... 450nm).

The photo diode dpine2 uses the OPTO module in addition to the CORE module.



Cross section of photo diode **dpine2**



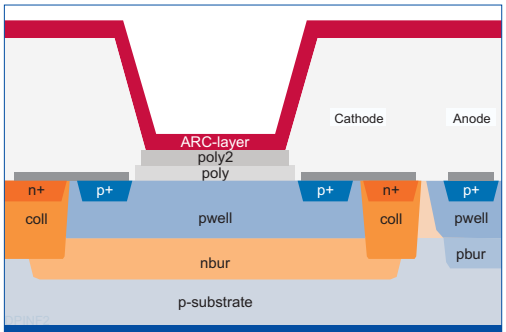
dpine2 location on the evaluation chip

dpinf2 [n-buried layer/p-substrate diode]

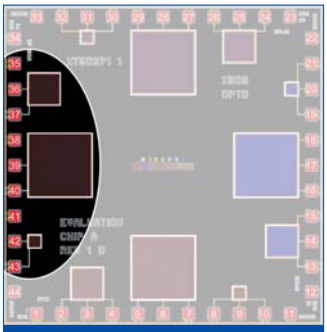
The dpinf2 is a diode between the n-buried layer and the p-substrate by using the double POLY layer and the shorted isolated PWELLL.

The photo diode dpinf2 suppresses partly UV, blue and green light (200nm ... 500nm).

Beside the CORE module OPTO is used.



Cross section of photo diode **dpinf2**



dpinf2 location on the evaluation chip

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