

Business offering and products

ELFys provides advanced photodetector products and services based on our innovative black silicon induced junction technology. We support our customers to evaluate photodetector performance for proof-of-concept. We design and develop tailored photodetector solutions with our in-depth know-how. We manufacture and supply photodetector products with small volume and mass production.

We offer:

- ▶ Innovation package
 - Photodetector technology support and consultation
 - Demonstration and evaluation of the photodetector technology
- ▶ Solution package with production
 - Customized photodetector design
 - Prototyping and validation in small volume
- ▶ Black silicon induced junction technology and semiconductor processing services
 - Core know-how technology available for outsourcing or licencing
 - Cleanroom detector processing services

Manufacturing

ELFys Inc. has a partnership agreement with Micronova Nanofabrication Center in Espoo, Finland, where 2600 m² of state-of-the-art processing facilities allow flexible and scalable production. Our CMOS-compatible technology can be easily integrated into your existing process.

Contact

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About us

ELFys Inc. was founded in Autumn 2017. Our core team consists of former senior researchers from Aalto University (Espoo, Finland) and engineering leaders.

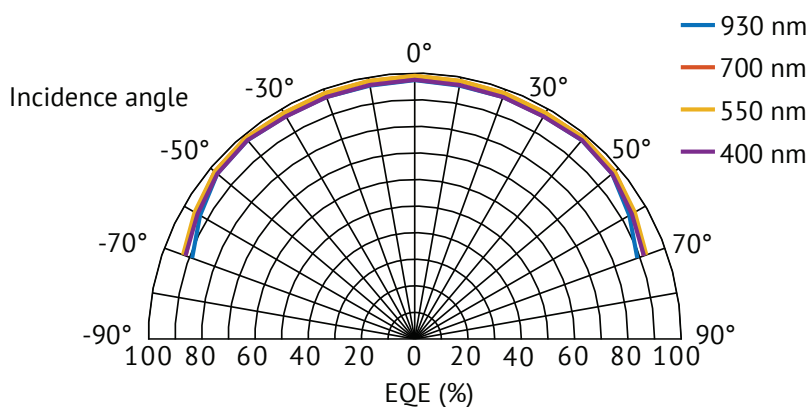
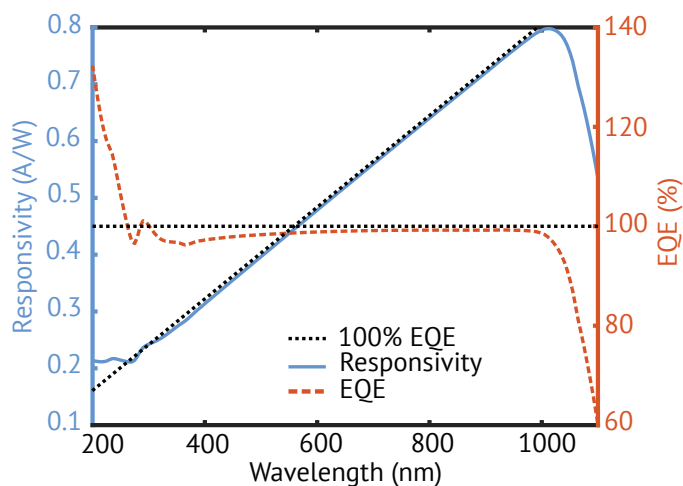


PHOTODETECTOR PRODUCTS

Product line	Product name	Bias voltage - Max.	Photosensitive area	Dark current @ -10mV - Max.	Capacitance @ 0 V, 100 kHz	Responsivity @ λ_p		Default packaging*
		[V]	[mm ²]	[pA]	[pF]	[A/W]	λ_p (nm)	
SM	SM322**	6	3.22	40	60	0.71	970	SMD
	SM446**		4.46	50	80	0.71	970	SMD
PD	PD1sM	10	1	12	20	0.80	1010	TO-46
	PD1sH		1	255	11	0.81	1040	TO-46
	PD4sM		4	15	65	0.80	1010	TO-46
	PD25sM	20	25	30	370	0.80	1010	TO-8
	PD25sH		25	700	110	0.81	1040	TO-8
	PD100sM		100	60	1200	0.80	1010	PCB
	PD100sH	100	100	1500	340	0.81	1040	PCB
	PD5sMG		5	15	105	0.80	1010	PCB
	PD5sHG		5	400	30	0.81	1040	PCB
	PD25sMG		25	30	370	0.80	1010	PCB
	PD25sHG		25	700	110	0.81	1040	PCB
	PD100sMG		100	60	1200	0.80	1010	PCB
	PD100sHG	100	1500	340	0.81	1040	PCB	

*Customized packaging is available for all products upon customer request, Bare chip is available off-the-shelf for all products.

**Preliminary data.



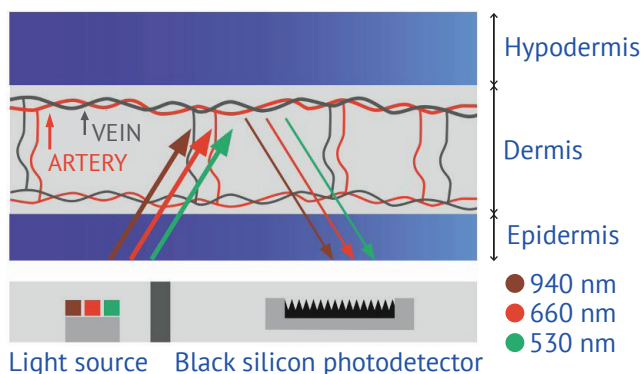
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LEADING PERFORMANCE OF LIGHT SENSING WITH NEW PHOTODIODE TECHNOLOGY

Where innovation meets the challenging demand

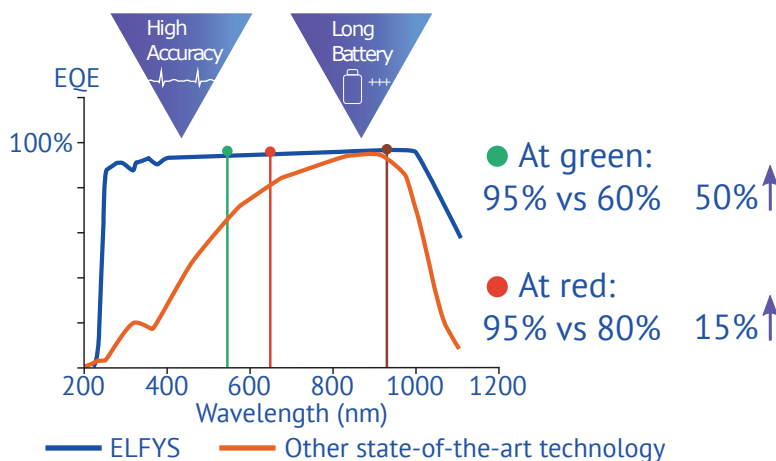
ELFys provides innovative photodetector technology with sensitivity better than anything seen so far. We design, develop and manufacture better photodiodes to help our customers achieve competitive edge with new solutions in a wide range of light sensing applications:

- ▶ Health monitoring
- ▶ Analytical instruments
- ▶ Safety & security x-ray imaging
- ▶ Medical x-ray imaging
- ▶ Industrial & environmental sensing



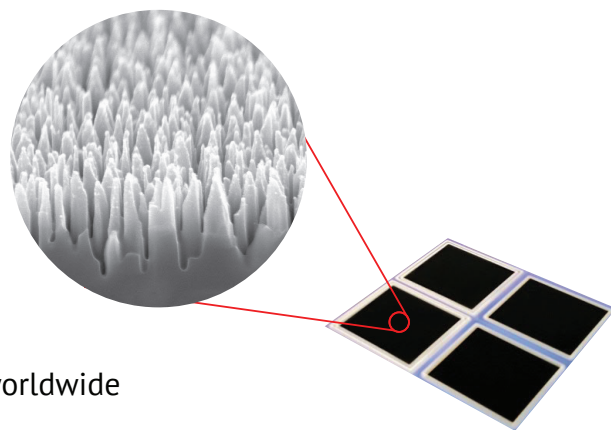
Key benefits to health monitoring applications

- ▶ Superior photosensitivity for HR and SpO₂ measurement
- ▶ More accurate data with higher SNR on LED driving current
- ▶ Extended battery lifetime with LED power reduction up to 50%
- ▶ Optimized footprint to facilitate innovative wearable designs
- ▶ ESA TRL 5 ready, critical performance verified in relevant environment



Core technology: Black Silicon Induced Junction

- ▶ Nano-engineered surface structure
- ▶ Defect-free induced junction
- ▶ Advanced ALD coating technique



Patents

Our photodiode technology is protected by our patent families worldwide

