



in-dye®

Product Specifications (Ver. 7.0)



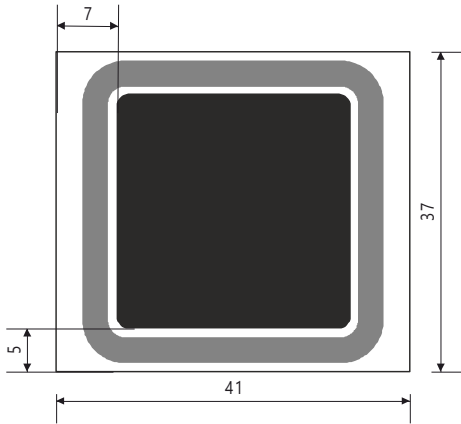
Sustainable



High performance



Robust

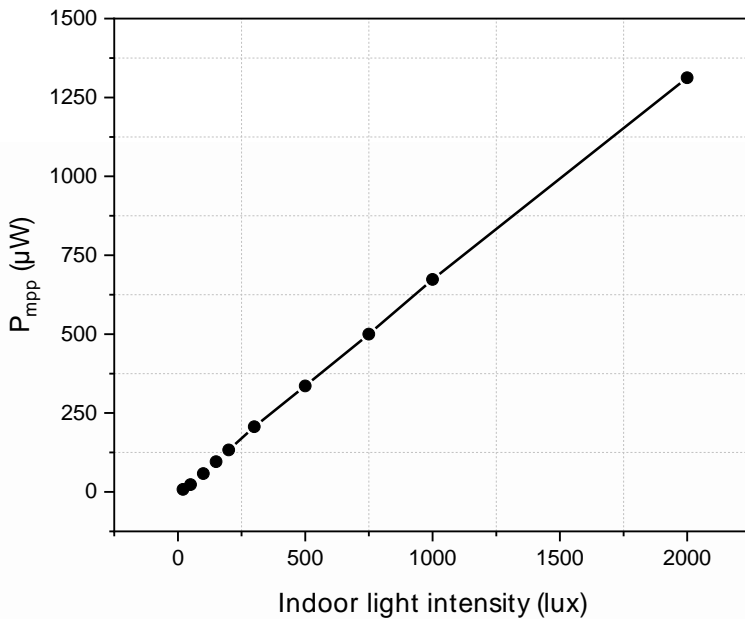


The in-dye® PV cell is tailored for indoor use, primarily for integration into Internet of Things (IoT) devices. These ultra-thin PV cells can be customised to meet the unique needs of our customers and are designed to power self-sustaining, energy-efficient electronics specifically for indoor environments.

The data provided reflects the performance of a single in-dye® PV cell at 25 °C, under LED illumination, at a temperature of 3000 K, unless otherwise specified.

### Typical Power Density at Maximum Power Point of in-dye® PV cell

(Active area = 7,29cm<sup>2</sup>)



Intensity (lux)	P <sub>mpp</sub> (µW)
20	7,94
50	23,0
100	58,2
150	95,5
200	133
300	206
500	336
750	500
1000	673
2000	1313

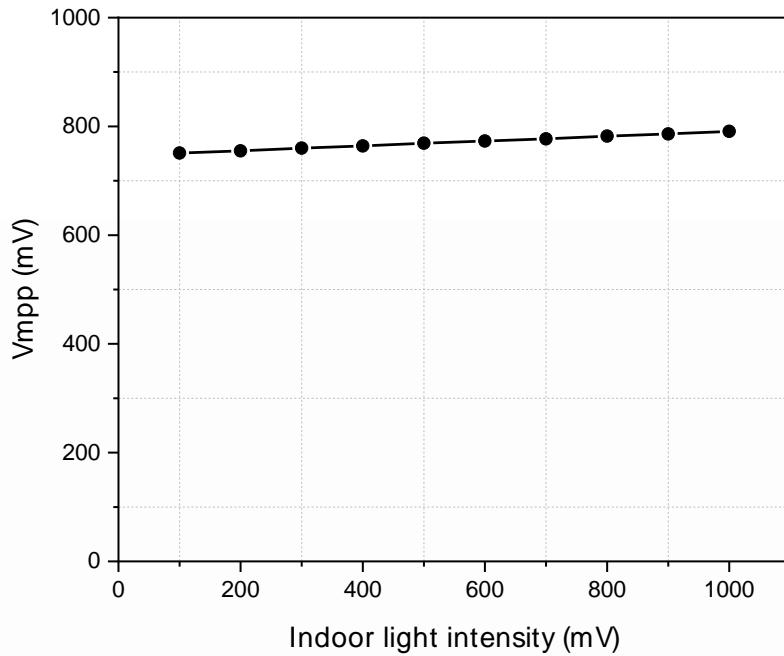
\*Typical cells show between 25 and 28 % light power conversion efficiency at 1000 lux

# Specifications

	Min	Max
Illuminance range (lux)		
Attuned range	20	10 000
Temperature range (°C)		
Maximum temperature range	-20	60
Spectral response		
Attuned range	400	650
Ideal absorbance	400	650
Thickness (mm)	2.3 ± 0.3	
Dimension (mm)*	41 × 37	
Absorber area (mm <sup>2</sup> )	729	

\* Can be specifically designed as per customer requirements

## Voltage at Maximum Power Point of in-dye® PV cell

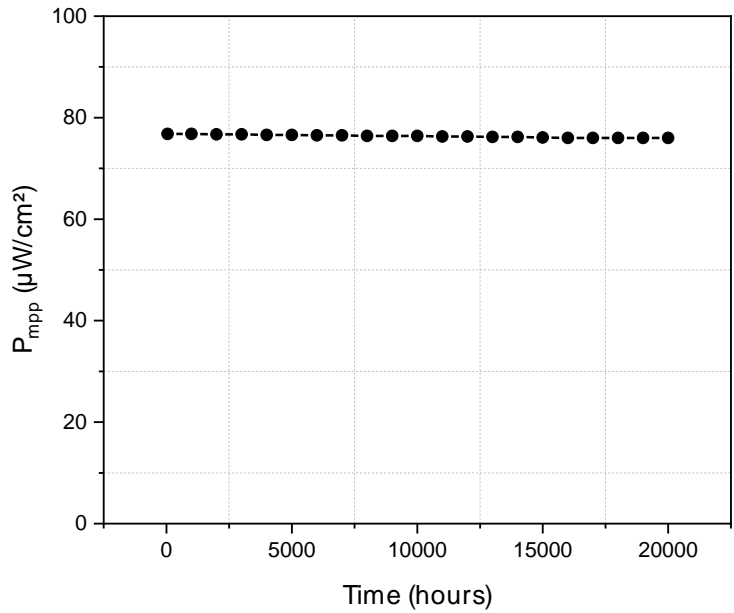


Intensity (lux)	V <sub>mpp</sub> (mV)
100	751
200	755
300	760
400	764
500	769
600	773
700	777
800	782
900	786
1000	791

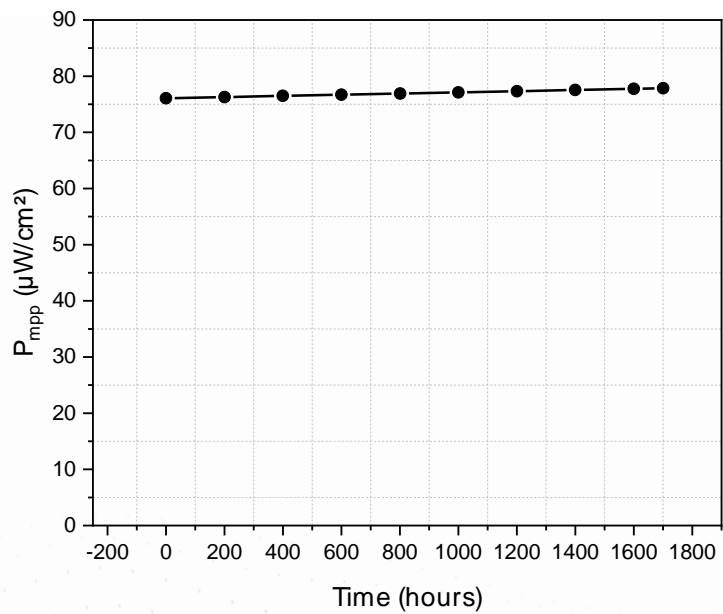
# Stability of in-dye<sup>®</sup> PV cell

(measurements at 1000 lux)

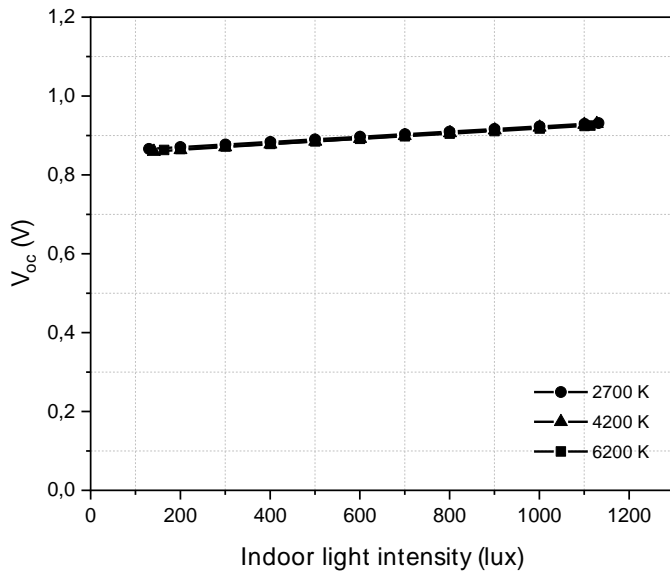
## Stability under ambient conditions



## Stability under 100 % relative humidity at 40 °C



# Impact of LED Color on Open-Circuit Voltage of in-dye® PV cell

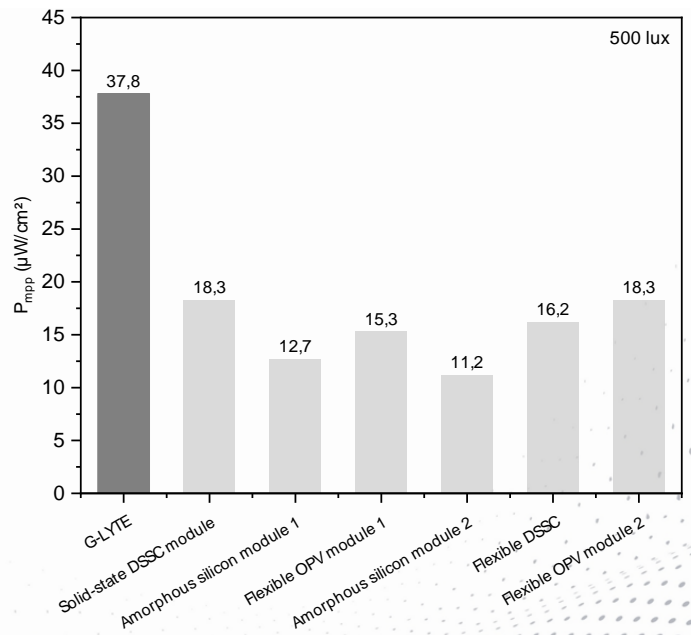
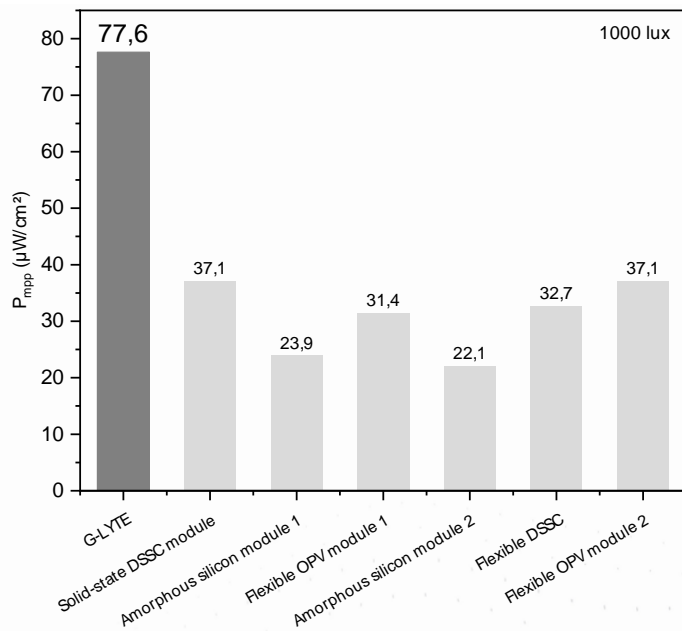


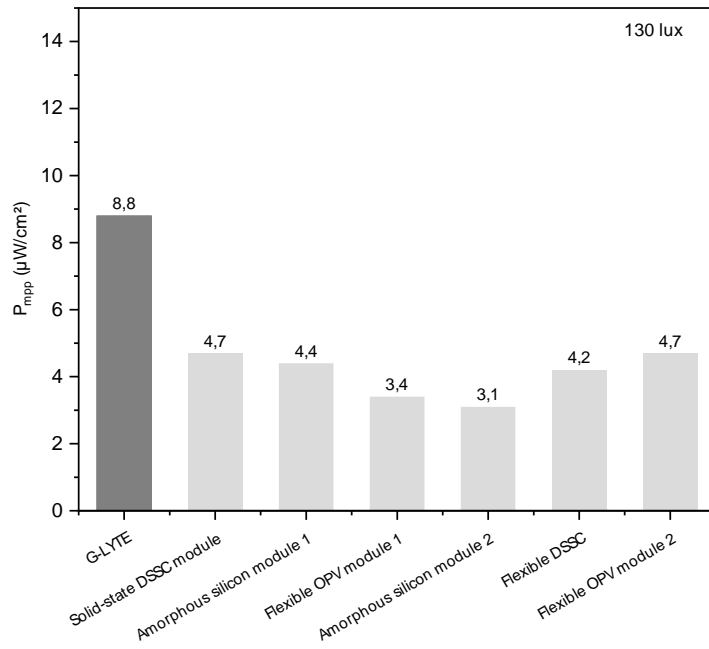
Indoor performance is evaluated over a spectrum of color temperatures ranging from warm white (2700K) to cool white (6200K). This variation is integral to achieving optimum input/output efficiency for our internal electrical circuitry, ensuring that the output voltage is in line with customer requirements (e.g., 3.5 V for self-battery charging).

Intensity (lux)	150	200	300	400	500	600	700	800	900	1000	1100
2700 K	866	871	877	884	890	897	903	910	916	923	929
4200 K	859	863	870	878	885	892	899	906	913	921	928
6200 K	863	865	872	879	885	891	898	904	911	917	924

## Contrasting in-dye® PV cell with commercialized IPV

(Comparison data are given as indications)





For more information, customization, and integration options or if you want to test our product, please get in touch with our team:

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