



What is OLED?

Organic Light-Emitting Diode (OLED) Display Panel, or Organic Electroluminescence (OEL), possesses the new generation technologies that other flat displays are hard to accomplish – brighter and clearer full colour images with more agile responding speed.

How does OLED emit light?

The basic structure of OLED is a sandwich formed with a thin and transparent semi-conducting anode of Indium Tin Oxide (ITO) and a metal cathode on both sides of an organic substrate. The organic material comprises hole transmission layer (HTL), emitting layer (EL) and electronic transmission layer (ETL).

When a proper voltage provided by the battery (low voltage property) is applied, holes injected in the anode and electric charges from the cathode meet and combine at the illuminating layer and excite electroluminescence; structure of the organic layer and design and choice of the anode and cathode are key factors to the light emitting efficiency of the OLED device.

The advantages of using OLED

Wide Range of Visibility: Good visibility from long distance; wide viewing angle

Small Size: Thickness down to 1.8 mm; Pitch size smaller than for any other technology

Image Quality: High colour saturation, high contrast, and high speed

Low Power Consumption: efficient transformation of electricity into light low heat output

Applications of OLED technology

Today OLED displays are used in number of devices that require electronic display panel. Among most popular types of application are:

- Personal Digital Assistants (PDAs)
- Audio/Visual display systems;
- Mobile telephones;
- Portable Games;
- Personal care appliances;
- Household goods;
- Dynamic information displays;
- Digital cameras

However, number of possible applications is growing everyday and is not restricted by industry or type of product.

Electro-mechanical properties

Technology: Passive Matrix

Logic Supply Voltage: 2.8 ~ 3.6 V

Contrast: 1000:1

Viewing angle: >160°

Response time: <10 μs

Operating Temperature: 20 to 70°C

Storage Temperature: -30 to 80°C



OLED EVALUATION KITS

Densitron offers user-friendly evaluation kits that allow easy assessment of its range of OLED displays. Please contact us for more information.



Densitron OLED Displays

Module No.	Screen Size (Inches)	Resolution	Module Dimension WxHxD mm	Viewing Area WxH mm	Controller
DD-6448BE-1B	0.66	64 x 48	21 x 18.4 x 2.2	16 x 12.14	SSD1303T5
▶ DD-10416BE-1A	0.85	104 x 16	31.3 x 9.2 x 1.85	23.3 x 5.28	SSD1300Z
DD-9664FC-2A	0.95	96 x 64	25.7 x 22.2 x 1.5	22.14 x 15.42	SSD1331
DD-12864WE-1A	0.96	128 x 64	26.7 x 19.26 x 2.1	23.74 x 12.86	SH1101A
DD-12864WE-3A	0.96	128 x 64	26.7 x 21 x 1.6	23.74 x 12.86	SSD1303
DD-2864BY-1A	1.02	128 x 64	30 x 20.16 x 1.8	25.02 x 13.86	SSD1303T6
DD-2864BY-2A	1.02	128 x 64	30 x 20.16 x 1.8	25.02 x 13.86	SSD1303
DD-2832BE-1A	1.11	128 x 32	33.4 x 14.5 x 1.8	29.5 x 8.06	SSD1303T6
DD-2832BE-2A	1.11	128 x 32	33.4 x 14.5 x 1.8	29.5 x 8.06	SSD1303
DD-32645C-1A	1.16	132 x 64	33.4 x 21.7 x 1.8	28.38 x 14.98	SSD1303T6
DD-32645C-2A	1.16	132 x 64	33.4 x 21.7 x 1.8	28.38 x 14.98	SSD1303
DD-160128FC-1A	1.45	160 x 128	35.8 x 30.8 x 1.7	30.78 x 25.02	SEPS525F
DD-128128FC-4B	1.50	128 x 128	33.8 x 34 x 1.7	28.865 x 28.865	SSD1339
▶ DD-12864YO-3A	1.54	128 x 64	45.24 x 29.14 x 2.36	37.05 x 19.52	SSD1305
DD-160128FC-2A	1.69	160 x 128	39.9 x 34 x 1.7	35.575 x 28.864	SEPS525
▶ DD-12833YW-1A	2.23	128 x 33	62.3 x 22.6 x 2.2	57.02 x 15.18	STV8102
▶ DD-12833BE-1A	2.23	128 x 33	62.3 x 22.6 x 2.2	57.02 x 15.18	STV8102
▶ DD-12864YO-1A	2.70	128 x 64	73 x 41.86 x 3.4	63.41 x 32.69	SSD1325T6
▶ DD-12864YO-5A	2.70	128 x 64	73 x 41.86 x 3.3	63.41 x 32.69	SSD1325
▶ DD-12864YO-7A	2.80	128 x 64	73 x 41.86 x 3.3	63.41 x 32.69	SSD1325
▶ DD-25664YW-2A	3.12	256 x 64	88 x 27.8 x 2.2	78.78 x 21.18	STV8105
▶ DD-25664BE-1A	3.12	256 x 64	88 x 27.8 x 2.2	78.78 x 21.18	STV8105

▶ Replacement models for recently discontinued displays by other OLED manufacturers; available in Q4 2007

▶ ST Micro are phasing out the STV8102/5, LTB is April 2008, shipping until Dec 2008. There will be mechanically identical replacement OLED's available in Q1/2 2008, which will utilize a different IC and Pin Outs.

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