

# PMOLED - Wearable Electronics Applications

## Overview

Solomon Systech's passive matrix OLED (PMOLED) display driver ICs are the market leading solutions for small to mid-size OLED displays. Solomon Systech offers display driver ICs for icon, dot matrix and character OLED panels, and support mono, grayscale and color displays. Solomon Systech's OLED display driver ICs are available in portrait and landscape orientation to fit in different product form factors.

Our display driver ICs contain highly integrated features and operate in low input voltage level and low power consumption. They are the perfect display solutions particularly for your wearable applications.



## Key Benefits of Solomon Systech PMOLED Display Driver ICs for Wearable Electronics Display

POWER SAVING	DISPLAY PANEL THICKNESS	DISPLAY QUALITY	HIGHLY INTEGRATED FEATURES	LANDSCAPE / PORTRAIT OPTION AVAILABLE
<ul style="list-style-type: none"> <li>Self emissive nature of PMOLED eliminates the need of backlight</li> <li>De facto the best power saving display technology for small-size display applications</li> </ul>	<ul style="list-style-type: none"> <li>PMOLED display panels are available with thickness in mm</li> <li>Good fit for wearable electronic gadgets with emphasis on product style and appearance</li> </ul>	<ul style="list-style-type: none"> <li>High OLED driving voltage, large segment current display driver IC available for super high brightness OLED display</li> <li>Proprietary driving scheme available for enhanced display quality</li> </ul>	<ul style="list-style-type: none"> <li>Integrated charge bump option available, saving cost of external components and PCB space</li> <li>Advanced graphic command available (eg, content scrolling)</li> </ul>	<ul style="list-style-type: none"> <li>Available in portrait and landscape orientation to fit in different form factors</li> <li>Portrait driver available to support curved / bendable displays</li> </ul>

## Selection Guide

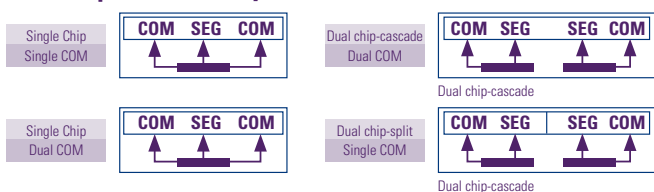
Part Number	SSD1306B	SSD1309	SSD1316	SSD1307	SSD1317	SSD1322	SSD1327	SSD1362	SSD1351	SSD1352	SSD1355
Display Colour	Mono	Mono	Mono	Mono	Mono (with Dynamic Grayscale)	Grayscale	Grayscale	Grayscale	Colour	Colour	Colour
IC Orientation	Landscape	Landscape	Portrait	Portrait	Portrait	Landscape	Landscape	Portrait	Landscape	Landscape	Landscape
Resolution	128 X 64	128 X 64	128 X 39	128 X 39	128 X 96	480 X 128	128 X 128	256 X 64	128RGB X 128	160RGB X 128	128RGB X 160
Embedded Charge Bump	Yes	No	Yes	No	No	No	No	No	No	No	No
Maximum High Voltage Supply	15V	16V	15V	15V	16.5V	20V	18V	20V	18V	18V	21V
Maximum Segment Current	240uA	320uA	160uA	320uA	600uA	300uA	300uA	600uA	200uA	300uA	200uA

### Landscape IC Panel Resolution

480 x 64	Colour				
	Grayscale/Mono			SSD1322	Single Chip Dual COM
	Mono only				
320 x 64	Colour			SSD1352	Dual chip-cascade Dual COM
	Grayscale/Mono			SSD1322	Single Chip Dual COM
	Mono only				
256 x 32 256 x 64	Colour			SSD1351	Dual chip-split Single COM
	Grayscale/Mono			SSD1352	Dual chip-cascade Dual COM
	Mono only			SSD1322	Single Chip Dual COM
192 x 32 192 x 64 192 x 128	Colour			SSD1351	Dual chip-split Single COM
	Grayscale/Mono			SSD1352	Dual chip-cascade Dual COM
	Mono only			SSD1322*	Single Chip Dual COM
160 x 32 160 x 64 160 x 128	Colour			SSD1352	Single Chip Dual COM
	Grayscale/Mono			SSD1322*	Single Chip Dual COM
	Mono only				
128 x 128	Colour			SSD1351	Single Chip Single COM
	Grayscale/Mono			SSD1352	Single Chip Single COM
	Mono only			SSD1327	Single Chip Single COM
128 x 16 128 x 32 128 x 64	Colour			SSD1351	Single Chip Dual COM
	Grayscale/Mono			SSD1352	Single Chip Dual COM
	Mono only			SSD1327	Single Chip Single COM
96 x 16 96 x 32	Colour			SSD1351	Single Chip Single COM
	Grayscale/Mono			SSD1352	Single Chip Dual COM
	Mono only			SSD1327	Single Chip Single COM

\* Connect max. 2 SEG of IC to 1 SEG channel of pixel  
 \*\* Connect max. 3 SEG of IC to 1 SEG channel of pixel  
**Higher brightness  
 Larger panel size**

### Landscape IC Panel Layout Illustration



### Portrait IC Panel Resolution

512 x 32 512 x 40 512 x 64	Grayscale/Mono				SSD1362	Dual chip-split S - C - S	
	Colour						
	Mono only						
320 x 240	Grayscale/Mono				SSD1355	Dual chip-split Virtual (C<>S)	
	Colour						
	Mono only						
320 x 128 320 x 64	Colour				SSD1355	Dual chip-split Virtual (C<>S)	
	Grayscale/Mono				SSD1362****	Dual chip-split S - C - S	
	Mono only						
256 x 128	Colour			SSD1351	Dual chip-split Virtual (C<>S)	SSD1352	Dual chip-split Virtual (C<>S)
	Grayscale/Mono				SSD1327	Dual chip-split Virtual (C<>S)	
	Mono only						
256 x 32 256 x 64	Colour				SSD1351	Dual chip-split Virtual (C<>S)	
	Grayscale/Mono				SSD1327**	Dual chip-split Virtual (C<>S)	
	Mono only				SSD1316***	Dual chip-split S - C - S	
192 x 32 192 x 64 192 x 128	Colour				SSD1351	Dual chip-split Virtual (C<>S)	
	Grayscale/Mono				SSD1327**	Dual chip-split Virtual (C<>S)	
	Mono only				SSD1307***	Dual chip-split S - C - S	
160 x 32 160 x 64 160 x 128	Colour				SSD1355	Single Chip Virtual (C<>S)	
	Grayscale/Mono				SSD1355**	Single Chip Virtual (C<>S)	
	Mono only				SSD1362****	Single Chip S - C - S	
128 x 128	Colour				SSD1351	Single Chip Virtual (C<>S)	
	Grayscale/Mono				SSD1327**	Single Chip Virtual (C<>S)	
	Mono only				SSD1316***	Dual chip-split S - C - S	
128 x 16 128 x 32	Colour				SSD1351	Single Chip Virtual (C<>S)	
	Grayscale/Mono				SSD1327**	Single Chip Virtual (C<>S)	
	Mono only				SSD1307***	Single Chip S - C - S	
96 x 16 96 x 32	Colour				SSD1351	Single Chip Virtual (C<>S)	
	Grayscale/Mono				SSD1327**	Single Chip Virtual (C<>S)	
	Mono only				SSD1316	Single Chip S - C - S	

\*\* Connect max. 3 SEG of IC to 1 SEG channel of pixel  
 \*\*\* Up to 32 line only \*\*\*\* Up to 64 line only \*\*\*\*\* Up to 96 line only  
**Higher brightness  
 Larger panel size**

### Portrait IC Panel Layout Illustration

