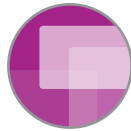


# Bistable Display Driver IC

**Innovative, Cost-effective and Energy Efficient Solutions for Smart Display Applications**



Bistable display is a non-traditional display technology. It is a display device illuminated by reflecting ambient light. The image is retained on the display even after the panel power supply has been removed. Bistable display offers paper-like readability, with features such as high contrast, a wide viewing angle, reflectiveness, and readability under sunlight. It is ultra thin and lightweight. Some bistable displays can even be twisted out of shape. Moreover, system power can be saved by the bistability characteristics, since the image remains on display even without power supply.

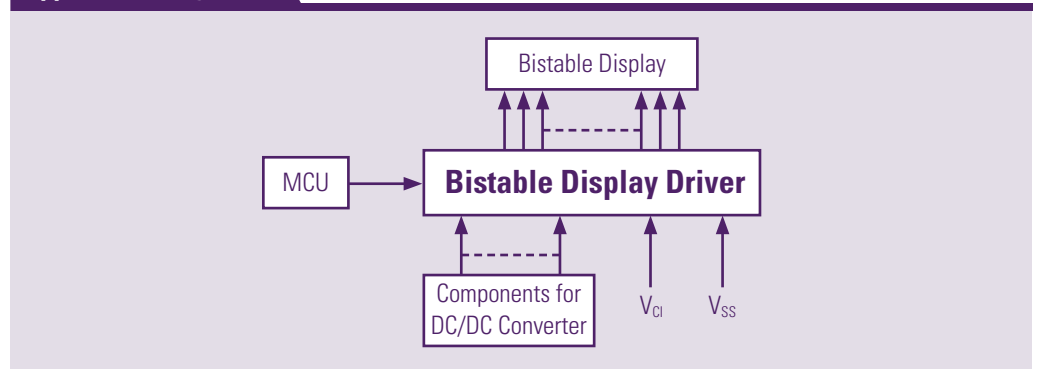
Solomon Systech develops the specialized **Bistable Display Driver Controllers** to make this novel display technology a reality. These highly integrated drivers consist of MCU interface for command and image data input, display RAM to buffer image data and high voltage driving outputs. To minimize system cost and space, the drivers have built-in DC/DC converter to supply high voltage to drive bistable display. These drivers can be applied to different bistable display technologies, such as Cholesteric LCD (ChLCD), Electrophoretic displays (EPD) and more.

In order to allow customers to verify the functions and customize for his own interest, we can support various development platforms for easy testing and development, and the display driver with MCU board and USB interface can drive and simulate customers' own design by PC programming.

**Applications:** Electronic Shelf Labels (ESL), IoT Devices, Health Care Devices, Smart Cards, Smart Watches/Meters, Electronic Signages for POP/POS, Mobile Displays, Indicators, etc.

**Solomon Systech Limited welcomes enquiries on the development of custom IC using our advanced display technologies.**

## Application Diagram



# Bistable Display Driver IC

## Selection Guide for Dot-Matrix Bistable Display

	SSD1619	SSD1675	SSD1673	SSD1673A	SSD1608	SSD1618	SSD1607	SSD1606	SSD1603
<b>Panel Type</b>	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Active Matrix EPD	Dot Matrix ChLCD
<b>Resolution (S x G)</b>	400 x 300	160 x 296	150 x 250	150 x 250	240 x 320	240 x 320	200 x 300	128 x 180	132 x 64
<b>Display Color</b>	Mono Black/White/Red	Mono Black/White/Red	Mono Black/White	Mono Black/White/Red	Mono Black/White	4 Grayscale Black/White Mono Red	Mono Black/White	4 Grayscale Black/White	Mono
<b>Cascade</b>	Yes	Yes	No	No	Yes	Yes	Yes	No	No
<b>Supply Voltage</b>	2.2V to 3.7V	2.2V to 3.7V	2.4V to 3.7V	2.4V to 3.7V	2.4V to 3.7V	2.4V to 3.7V	2.4V to 3.7V	2.4V to 3.3V	2.4V to 3.5V
<b>Output Driving Waveform</b>	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Predefined
<b>OTP for Storing Waveform</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
<b>Built-in DC/DC</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Display RAM</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>On-chip Oscillator</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>MCU Interface</b>	SPI/I <sup>2</sup> C	SPI/I <sup>2</sup> C	SPI/I <sup>2</sup> C	SPI/I <sup>2</sup> C	8-bit 6800/8080, SPI	SPI/I <sup>2</sup> C	8-bit 6800/8080, SPI	8-bit 6800/8080, SPI	8-bit 6800/8080, SPI, I <sup>2</sup> C
<b>IC Package</b>	COG	COG	COG	COG	COG	COG	COG	COG	COG

## Selection Guide for Segment Bistable Display, EPD & ChLCD

	SSD1627	SSD1628	SSD1623	SSD1629 (master)	SSD1626 (slave)
<b>Resolution</b>	132 segments	116 segments	96 Segments	32 segments	32 segments
<b>Display Color</b>	Mono, Support Red EPD	Mono, Support Red EPD	Mono	Mono	Mono
<b>Cascade</b>	Yes	No	Yes	Yes	Yes
<b>Supply Voltage</b>	2.4V to 3.6V/3.6-5.5V	2.4V to 3.6V/3.6-5.5V	2.4V to 3.6V	2.4V to 3.6V	2.4V to 3.6V
<b>Output Driving Waveform</b>	Programmable	Programmable	Programmable	Programmable	By SSD1629
<b>Built-in DC/DC</b>	Yes*	Yes*	Yes	Yes	By SSD1629
<b>Display RAM</b>	Yes	Yes	Yes	Yes	Yes
<b>On-chip Oscillator</b>	Yes	Yes	Yes	Yes	By SSD1629
<b>MCU Interface</b>	SPI/I <sup>2</sup> C	SPI/I <sup>2</sup> C	SPI	SPI	No
<b>IC Package</b>	Bare Die/COG/COF/LGA	COG	Bare Die/COG/COF/LGA	Bare Die/QFN	Bare Die/QFN

\* 15V Cap-lite charge pump: New Design charge pump for 15V driving with 2 external capacitors only in the application circuit.

## Solomon Systech Limited

Solomon Systech Limited is a leading semiconductor company providing display IC products and system solutions that enable a wide range of display applications for smartphones, smart TVs and other smart devices including consumer electronics products, wearables, portable devices and industrial appliances.



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