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.

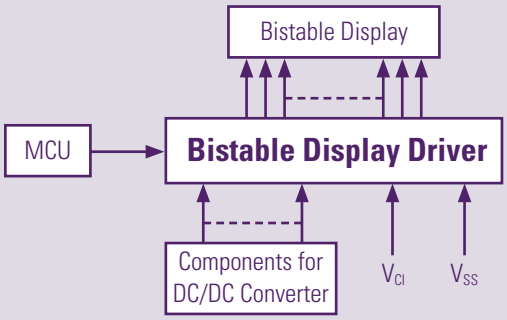
Solomon Systech develops the specialized **Bistable Display Driver Controllers** to make this novel display technology a reality. These highly integrated drivers consist of MCU interface for command and image data input, display RAM to buffer image data and high voltage driving outputs. To minimize system 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



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Selection Guide for Dot-Matrix Bistable Display

	SSD1619A	SSD1675A	SSD1673	SSD1673A	SSD1608	SSD1618	SSD1607	SSD1606	SSD1603
Panel Type	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
Resolution (S x G)	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
Display Color	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
Cascade	Yes	Yes	No	No	Yes	Yes	Yes	No	No
Supply Voltage	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
Output Driving Waveform	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable	Predefined
OTP for Storing Waveform	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
Built-in DC/DC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Display RAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
On-chip Oscillator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MCU Interface	SPI	SPI	SPI/I²C	SPI/I²C	8-bit 6800/8080, SPI	SPI/I²C	8-bit 6800/8080, SPI	8-bit 6800/8080, SPI	8-bit 6800/8080, SPI, I²C
IC Package	COG	COG	COG	COG	COG	COG	COG	COG	COG

Selection Guide for Segment Bistable Display, EPD & ChLCD

	SSD1627	SSD1628	SSD1623	SSD1629 (master)	SSD1626 (slave)
Resolution	132 segments	116 segments	96 Segments	32 segments	32 segments
Display Color	Mono, Support Red EPD	Mono, Support Red EPD	Mono	Mono	Mono
Cascade	Yes	No	Yes	Yes	Yes
Supply Voltage	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
Output Driving Waveform	Programmable	Programmable	Programmable	Programmable	By SSD1629
Built-in DC/DC	Yes*	Yes*	Yes	Yes	By SSD1629
Display RAM	Yes	Yes	Yes	Yes	Yes
On-chip Oscillator	Yes	Yes	Yes	Yes	By SSD1629
MCU Interface	SPI/I²C	SPI/I²C	SPI	SPI	No
IC Package	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 and touch applications for smartphones, tablets, TVs/monitors, notebooks and other smart devices, including wearables, healthcare devices, smart home devices, as well as industrial appliances, etc. Solomon Systech (International) Limited's shares have been listed on the main board of the Stock Exchange of Hong Kong Limited since April 8th, 2004 (stock code: 2878). More information about the Group, its products and services may be obtained at *http://www.solomon-systech.com/*.

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