

Display Interface

World's Lowest Power Consumption MIPI 8-lane Transmitter



Pioneering in MIPI solutions for display, Solomon Systech is proud to present a series of proprietary MIPI bridge IC that support high-resolution, high-speed and low-power display of smart devices – SSD2861, SSD2858, SSD2848, SSD2828, SSD2825, SSD2805 and SSD2830.

The **SSD2861**, which converts 4-lane eDP to 8-lane MIPI-DSI, is the lowest power consumption MIPI 8-lane transmitter in the world. It supports eDP-Rx at 2.7Gbps/lane and MIPI-DSI Tx at 1.0Gbps/lane which drives display panels with resolution of 2560 x 1800.

The **SSD2858/SSD2848** are graphic controllers that have an integrated frame buffer to support up to 2560 x 1600 (SSD2858) and 1920 x 1200 (SSD2848) for smartphone and tablet applications. The 27.6Mbit frame buffer supports Panel Self Refresh (PSR), Image Rotation and Scaler feature. Both MIPI bridge ICs have 4-lane MIPI-DSI Rx at 1.5Gbps/lane. The SSD2848 supports 4-lane MIPI-DSI Tx at 1.0Gbps/lane while the SSD2858 can support up to 8-lane MIPI-DSI Tx at 1.5 Gbps/lane.

The **SSD2830** is a MIPI master bridge chip that converts RGB / MCU interface to MIPI CPHY DSI Output. It supports resolution of up to WQHD (2560 x 1600) (native) and UHD (4096 x 2160) (compressed in/out) with 60Hz refresh rate. It is the best solution for driving the CPHY display panel.



All these solutions support AMOLED, a-Si LCD, metal oxide TFT and LTPS LCD panel technologies for smart device applications.

Applications: Smartphones (QHD/Full HD), Tablets (WQXGA/WUXGA), Smart Watches, Notebooks, GPS, MID, VR etc.

Features

SSD2861

- Support 24bit video mode of up to 2560 x 1800
- Support input of eDP at 1.62Gbps or 2.7Gbps/lane for 4 lanes
- Support output of MIPI-DSI at 1.0Gbps/lane for 8 lanes
- Support external EDID, read EEPROM by I²C
- Support VESA standard: DP v1.2a, eDP v1.2
- Support MIPI standard: DSI (v1.01.00), DCS (v1.02.00), D-PHY (v1.1)

SSD2858/SSD2848

- Support 24bit video mode of up to 2560 x 1600 (SSD2858) and 1920 x 1200 (SSD2848)
- 27.6Mbit memory to support Panel Self Refresh (PSR)
- Support input of DSI command and video mode, 1.5Gbps/lane for 4 lanes
- Support output of DSI video mode, 1.5Gbps/lane for 8 lanes (SSD2858) or 1.0Gbps/lane for 4 lanes (SSD2848)
- Support output of 2 x DSI clocks for dual display applications (SSD2858)
- Support anti-tearing Image Rotation of up to WXGA
- Support non-linear scaling of up to WQXGA (SSD2858) or WUXGA (SSD2848)
- Support MIPI standard: DSI (v1.01.00), DCS (v1.02.00), D-PHY (v1.1)

SSD2830T

- Support C-PHY panel at refresh rate of 60Hz, with resolution up to WQHD (2560 x 1600) (native) or UHD (4096 x 2160) (compressed in/out).
- Support MIPI C-PHY standard version 1.1.
- Support MIPI DSI standard version 2.0 with C-option for TX.
- Support MIPI DCS standard version 2.0.
- Support 2 MIPI C-option DSI engines with throughput up to 20.52Gbps, using 6 C-PHY lanes for each DSI-TX (Each lane is up to 1.5Gbps).
- Support single or dual DSI mode at DSI-TX output.
- Support both Video and Command modes.

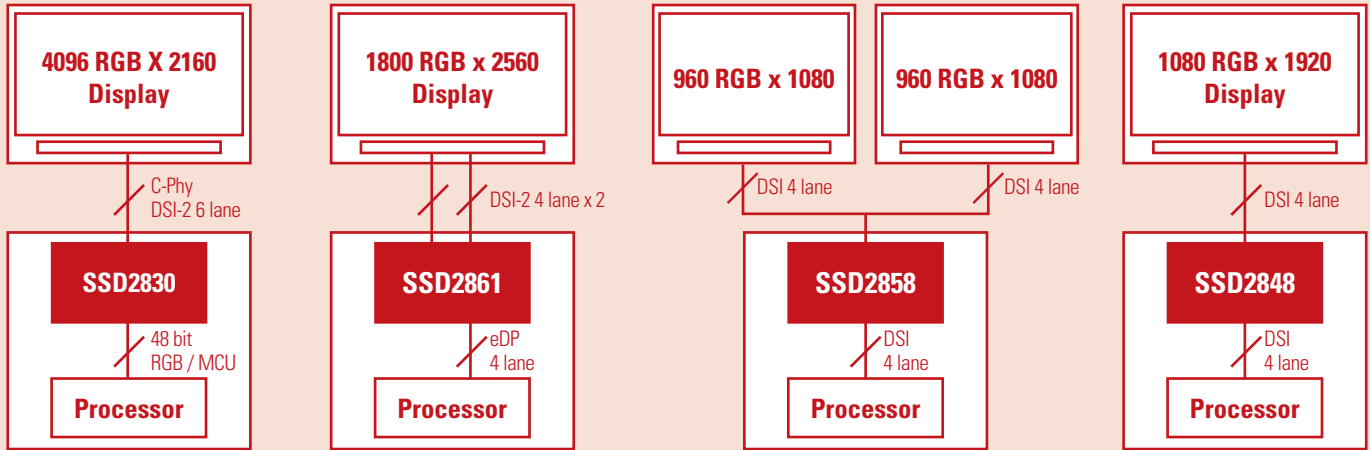


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Application Diagram



Selection Guide

Part Number	Max Resolution	Rx Input Signal	Tx Output Signal	Application	Package
SSD2830QL9 / SSD2830TQL9	4096 x 2160	48 bit RGB / MCU	C-Phy, DSI-2 6 lane 1.25Gbps/1.5Gbps per lane	Test Equipment	LQFP 14x14 128L
SSD2829QL9 / SSD2829TQL9	4096 x 2160	48 bit RGB / MCU	DSI 8 lane, 1.25Gbps/1.5Gbps per lane	Test Equipment	LQFP 14x14 128L
SSD2831QL9 / SSD2831TQL9	4096 x 2160	DSI 4-lane/8-lane, 1.25Gbps/1.5Gbps per lane	DSI 8 lane, 1.25Gbps/1.5Gbps per lane	Test Equipment	LQFP 14x14 128L
SSD2861QN10	2560 x 1800	eDP 4 lane, 1.62Gbps or 2.7Gbps/lane	DSI video mode 8 lane, 1.0Gbps/lane	Tablet / Notebook	QFN 10x10 88L
SSD2858K1	2560 x 1600	DSI command / video mode 4 lane, 1.5Gbps/lane	DSI video mode 8 lane, 1.5Gbps/lane	Smartphone / Tablet	WLCSP 84L
SSD2848K1	1920 x 1200	DSI command / video mode 4 lane, 1.5Gbps/lane	DSI video mode 4 lane, 1.0Gbps/lane	Smartphone / Tablet	WLCSP 84L
SSD2828QN4	1920 x 1200	24bit RGB	DSI video mode 4 lane, 1.0Gbps/lane	Tablet & Industrial	QFN 8x8 68L
SSD2805CG39R	960 x 540	24bit RGB / MCU	DSI command / video mode 2 lane, 350Mbps/lane	Smart Watch	BGA 5x5 64L
SSD1963G41	864 x 480 / 24bpp	8 / 9 / 16 / 18-bit (6800, 8080)	Serial TFT 6-bit / 8-bit; Parallel TFT 18-bit / 24-bit	Home Appliance	TFBGA 7x7 80L

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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