

Display Interface Controller IC

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 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. SSD2848 supports 4-lane MIPI-DSI Tx at 1.0Gbps/lane while SSD2858 can support up to 8-lane MIPI-DSI Tx at 1.5 Gbps/lane.

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)

SSD2828/SSD2825/SSD2805

- Support up to total of 4Gbps (SSD2828) or 2.4Gbps (SSD2825) over the serial links
- Support 4 data lanes
- Support up to 1366 pixels per display row in video mode (SSD2825 only)
- Support up to 1920 pixels per display row in video mode, up to 60hz refresh rate (SSD2828 only)
- Support up to 2560 pixels per display row in video mode, up to 30hz refresh rate (SSD2828 only)
- Support parallel VISSI interface (DPI 2.0) of up to 24bits
- Support serial SPI interface (DBI 2.0) of up to 16bits
- Support CABC function for video mode
- Support MIPI standard: DSI (v1.01.00), DCS (v1.02.00), D-PHY (v1.0)

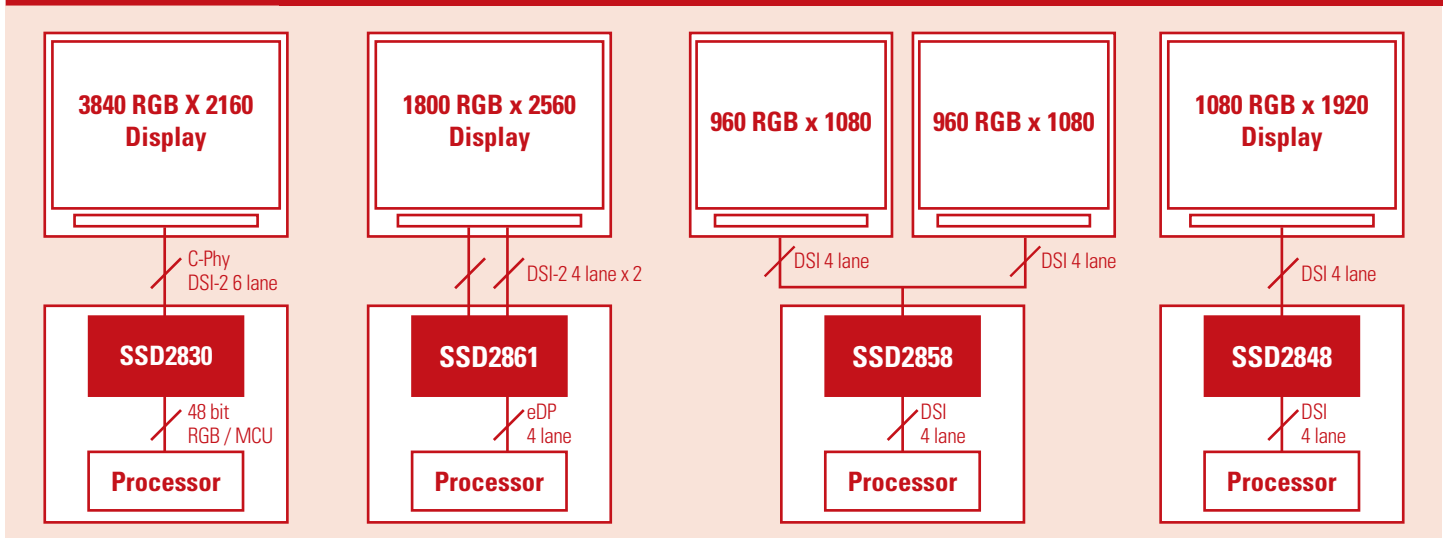


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Application Diagram



Selection Guide

Part Number	Max Resolution	Rx Input Signal	Tx Output Signal	Application	Package
SSD2861QN10	2560 x 1800	eDP 4 lane, 1.62Gbps or 2.7Gbps/lane	DSI video mode 8 lane, 1.0Gbps/lane	Tablet	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
SSD2830QL9	3840 x 2160	48 bit RGB / MCU	C-Phy, DSI-2 6 lane	Test Equipment	LQFP 14x14 128L
SSD2828QN4	1920 x 1200	24bit RGB	DSI video mode 4 lane, 1.0Gbps/lane	Tablet & Industrial	QFN 8x8 68L
SSD2825G44	1280 x 720	24bit RGB	DSI video mode 4 lane, 600Mbps/lane	Smartphone	BGA 4x4 64L
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
SSD1926QL9	320 x 240 / 16bpp 480 x 234 / 16bpp	16-bit (6800, 8080)	Parallel TFT 24-bit	Home Appliance	LQFP 14x14 128L

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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