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 – SSD2805, SSD2828, SSD2848, SSD2858, SSD2861, SSD2829, SSD2831 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.

*All the images are for reference only.

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)
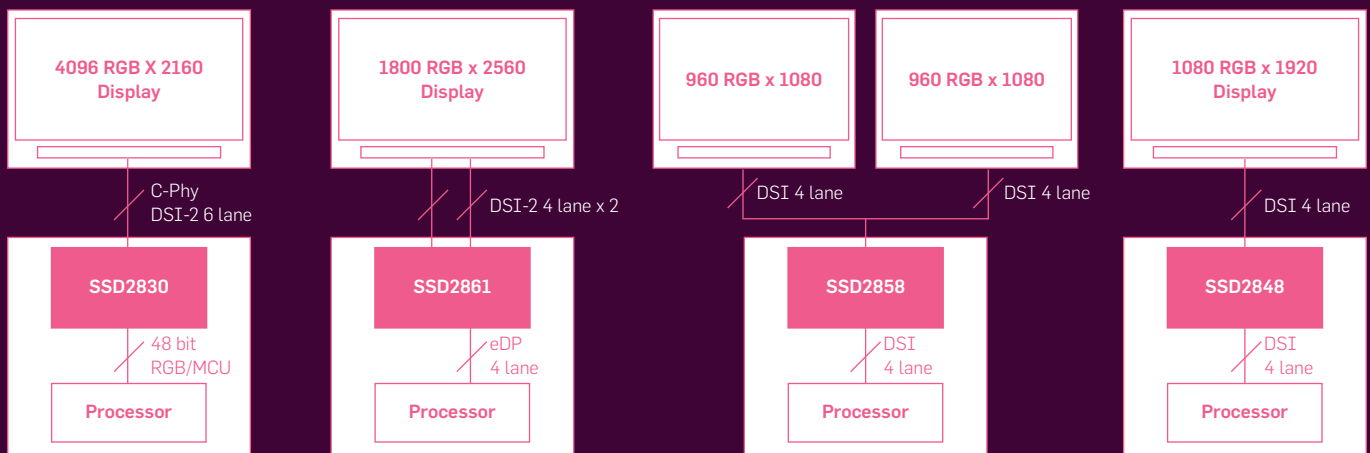
SSD2858/SSD2848
- Support 24bit video mode of up to 2560 x 1600 (SSD2858) and 1920 x 1200 (SSD2848)
- 27.6Mbit memory to support Panel Self Refresh (PSR)
- Support input of DSI command and video mode, 1.5Gbps/lane for 4 lanes
- Support output of DSI video mode, 1.5Gbps/lane for 8 lanes (SSD2858) or 1.0Gbps/lane 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.

Application Diagram

Selection Guide

Part Number	Max Resolution	Rx Input Signal	Tx Output Signal	Application	Package
SSD2832G24	4096 x 2160	60 bit RGB/MCU	D-Phy/C-Phy DSI 1.5Gbps per lane	Test Equipment	BGA 15 x 15 373 balls
SSD2830QL9/ SSD2830TQL9	4096 x 2160	48 bit RGB/MCU	C-Phy, DSI-2 6 lane 1.25Gbps/1.5Gbps per lane	Test Equipment	LQFP 14 x 14 128L
SSD2829QL9/ SSD2829TQL9	4096 x 2160	48 bit RGB/MCU	DSI 8 lane, 1.25Gbps/1.5Gbps per lane	Test Equipment	LQFP 14 x 14 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 14 x 14 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 10 x 10 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 8 x 8 68L
SSD2805CG39R	960 x 540	24bit RGB/MCU	DSI command/video mode 2 lane, 350Mbps/lane	Home Appliance	BGA 5 x 5 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 7 x 7 80L