

DisplayPort transmitter

TTL to DisplayPort signal converter for TV and monitor applications



GM60028: DisplayPort transmitter IC

This device is designed for the transmission of secure, high-bandwidth, uncompressed digital audio-video content for next-generation TV, projector, and PC display systems. The DisplayPort link bandwidth supported by the GM60028 can transmit full HD video (1080p 30-bit color per pixel at 120 Hz or support 2560x1600 at 60 Hz graphics, along with the corresponding audio streams. Unlike conventional display interfaces, DisplayPort is scalable (1, 2 or 4 lanes) and can be freely traded between video resolution, refresh rate, and pixel bit depth.

The GM60028 offers a comprehensive feature set of video and audio format conversion and high-bandwidth digital content protection for secured digital transmission of uncompressed audio-video streams.

Key features

- DisplayPort 1.1a compliant transmitter
- HDCP 1.3 support
- Single DisplayPort link configurable as 1, 2 or 4 main lanes
- Bandwidth for handling WQXGA (60 Hz) or full HD (120 Hz), 8/10-bit video, along with up to 8-channel audio with 24-bit sample rate at 192 kHz
- 60-bit LVTTTL input configurable as single port or dual port with single pixel per clock or two pixels per clock
- RGB or YCbCr input color format
- RGB/YCbCr 4:4:4 -1x60, 1x48, 1x30, 1x24
- YCbCr 4:2:2 -1x24, 1x20, 1x16
- Color space conversion from RGB to YUV and from YUV to RGB

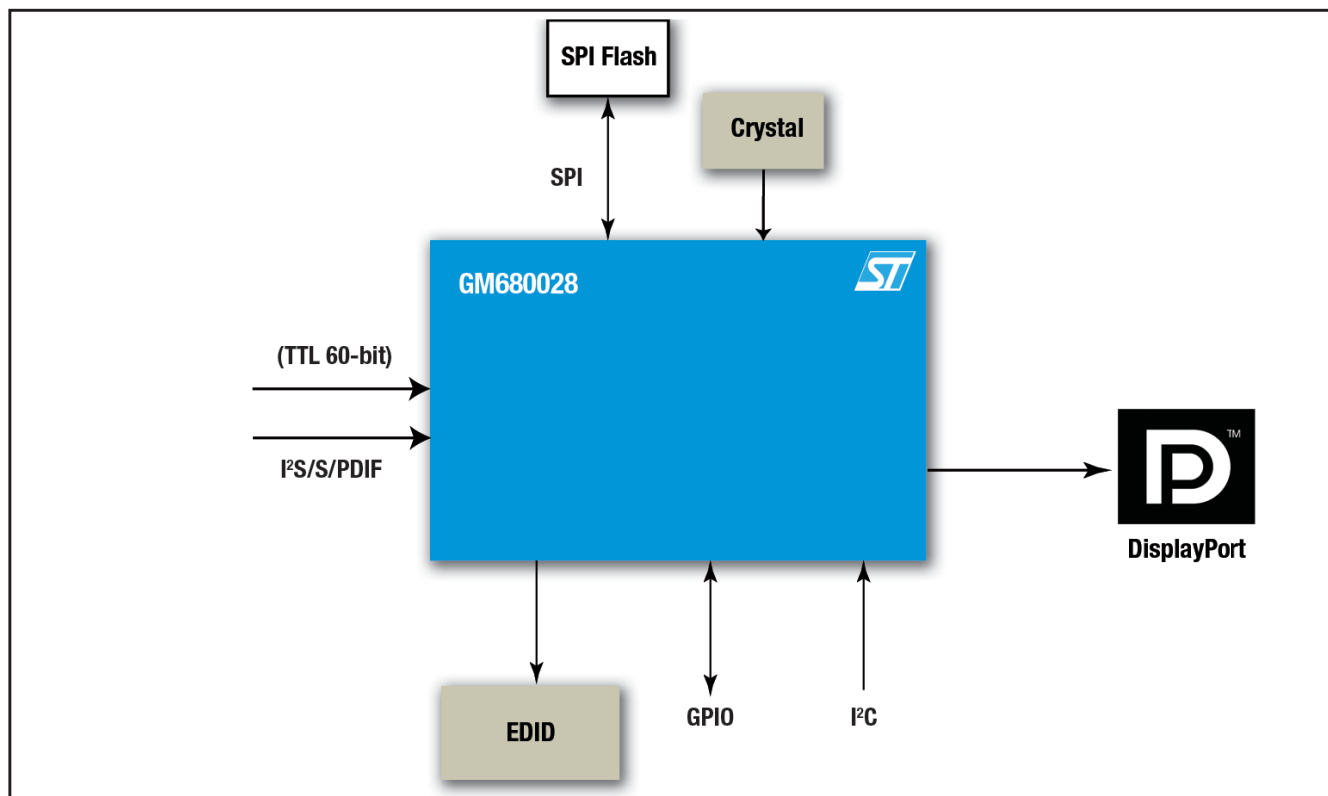
Key benefits

- Proven interoperability with all major DisplayPort vendors
- HDCP 1.3 support with repeater capability
- Integrated HDCP key storage for improved security and BOM reduction
- On-chip microprocessor enables standalone operation for customized applications
- Flexible interface to ease system design: DisplayPort 1, 2, 4 lane configuration, 60/48/30/24 TTL port, YUV/RGB color format
- Low EMI
- Low power

Target applications

- High bandwidth digital box-to-box interface for TV, monitor and projector applications

GM60028 system architecture



Software development and evaluation platform

STMicroelectronics provides a comprehensive suite of hardware and software tools to enable rapid product development. Complete turnkey reference design available with source code for quick time-to-market.



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