

TMDS Regenerators with Multiplexers

The ISL54100, ISL54101, ISL54102 are high-performance TMDS timing regenerators and multiplexers. The receiver contains a programmable equalizer and a clock data recovery (CDR) function for each of the 3 TMDS pairs in an HDMI or DVI signal. The TMDS data outputs of the ISL54100 are regenerated and perfectly aligned to the regenerated TMDS clock signal, creating an extremely clean, low-jitter DVI/HDMI signal that can be easily decoded by any TMDS receiver.

The ISL54100's design and package footprint supports many compound configurations. Two ISL54100s can create a DualLink 4:1 mux, a 4:2 crosspoint, or an 8:1 mux. Additional ISL54100s can create larger combinations of these building blocks. The ISL54102 with its 2:1 multiplexing function serves applications with fewer inputs, while the ISL54101 can be used as a cable extender, to clean up a noisy/jittery TMDS source, or to provide a very stable TMDS signal to a finicky DVI or HDMI receiver.

Features

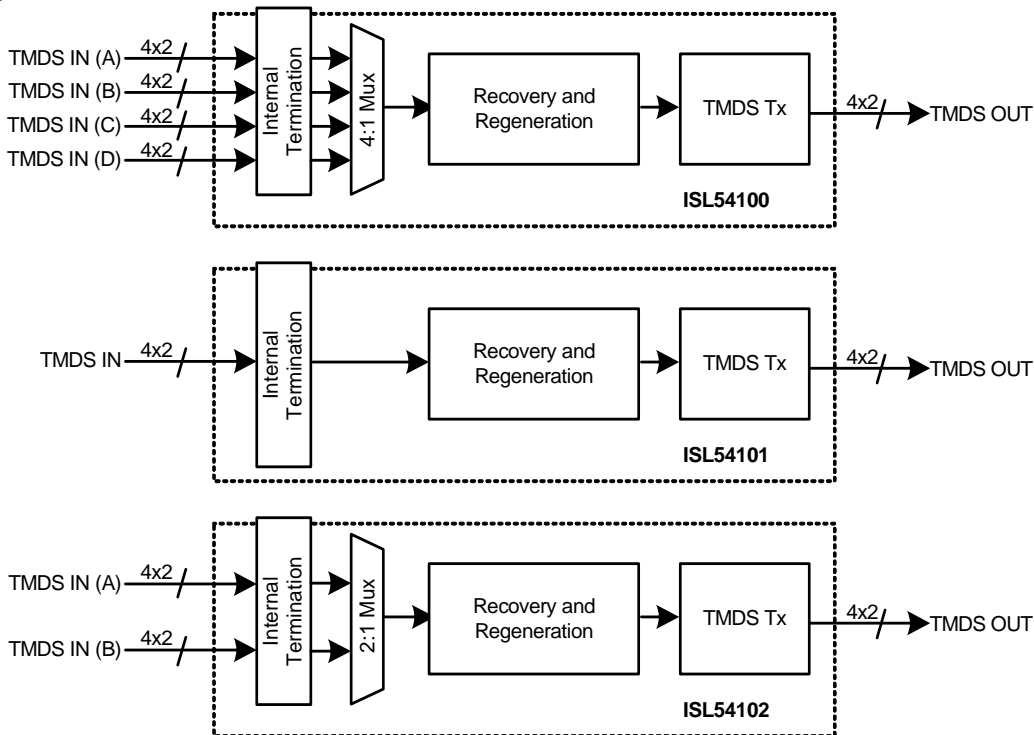
- ISL54100: 4:1 TMDS regenerator and multiplexer
- ISL54101: 1:1 TMDS regenerator
- ISL54102: 2:1 TMDS regenerator and multiplexer
- HDMI 1.3 Compliant (certified July, 2007)
- Clock Data Recovery and Retiming function enables use as TMDS range extender
- Programmable pre-emphasis on output driver
- Channel activity detect based on input TMDS clock activity
- Symmetrical pinout enables high-performance DualLink, 4:2 crosspoint and 8:1 multiplexing options
- Programmable internal 50Ω, 100Ω, or high-Z termination
- External pins for channel select, activity detection
- Stand-alone or I²C software-controlled operation
- Hardware, software, or automatic channel selectio
- Pb-free (RoHS compliant)

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Applications

- KVM switches
- DVI/HDMI extenders and multiplexers
- Televisions, PC monitors, projectors, A/V receivers

Block Diagrams



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