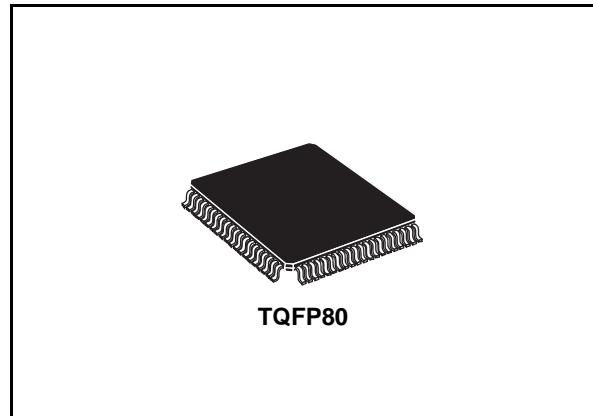


3:1 TMDS / HDMI signal equalizer

Data Brief

Features

- Compatible with HDMI v1.3 digital interface
- Conforms to the TMDS voltage standard on input and output channels
- 340 MHz maximum clock speed operation enabling up to 3.4 Gbps data rate per channel
- Integrated open-drain I²C buffer for DDC lines
- 5.3 V tolerant I²C I/O with 0 to 400 kHz frequency
- Ultra low capacitance of the channels
- Equalizer regenerates the incoming attenuated TMDS signal
- Buffer drives the TMDS outputs over long PCB track lengths
- Very low output skew and jitter
- Tight input thresholds reduce bit error rates
- On-chip 50 Ω input termination
- Integrated fail-safe feature sets outputs to known state for un-driven inputs
- Available in TQFP80 package footprint with flow-through pin-out
- -40°C to 85°C operating temperature range
- Evaluation kit and samples are available



Description

The STDVE003A integrates a 4-channel 3.4 Gbps TMDS equalizer and a 3:1 switch to select one of the three HDMI ports. The three input HDMI ports can be either external ports or internal sources. High-speed data paths and flow-through pin-out minimize internal device jitter and simplify board layout. The equalizer overcomes ISI jitter effects from lossy cables. The buffer/driver on the output can drive the TMDS output signals over long distances. In addition to this, STDVE003A integrates the 50 Ω termination resistor on all input channels to improve performance and reduce board space. The device can be put in a low-power mode by disabling the output current drivers.

The STDVE003A is ideal for advanced HDTV applications demanding HDMI deep colour (16-bit) superior image quality. The switch preserves the signal integrity to pass the stringent HDMI compliance requirements.

Table 1. Device summary

| Order code | Operating temperature | Package | Packaging |
|------------|-----------------------|---------|---------------|
| STDEV003A | -40°C to 85°C | TQFP80 | Tape and Reel |

1 Revision history

Table 2. Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 3-Sept-2007 | 1 | Initial release. |

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