

## 200 Mbps LVDS IP library

### OVERVIEW

055TSMC\_LVDS\_03 is a library including:

- Transmitter LVDS driver (TX\_LVDS);
- Receiver LVDS driver (RX\_LVDS);
- Reference current/voltage generators (RS\_TOP).

The RS\_TOP block is intended to output reference currents and voltage for RX\_LVDS driver and TX\_LVDS driver.

Composing of LVDS library components allows to design a device with up to 2 pairs of data channels and 2 pairs of synchronization channels.

IP technology: TSMC 55nm CMOS technology.

IP status: silicon proven.

Silicon area: TX\_LVDS driver – 0.02mm<sup>2</sup>;  
 RX\_LVDS driver – 0.029mm<sup>2</sup>;  
 RS\_TOP – 0.015mm<sup>2</sup>.

### Features:

- TIA/EIA-644 LVDS standards without hysteresis
- Data transfer rate: up to 200Mbps
- 2.5V IO voltage supply
- 1.2V core voltage supply
- 1.2V CMOS input/output logic control signals
- Embedded 1.2V/2.5V level shifters

### Applications:

- Point-to-point data transmission
- Multidrop buses
- Clock distribution
- Backplane receiver
- Backplane data transmission
- Cable data transmission

### BLOCK DIAGRAM

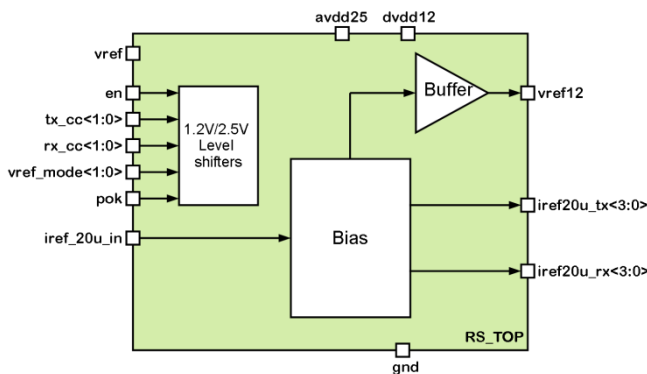


Figure 1: RS\_TOP block diagram

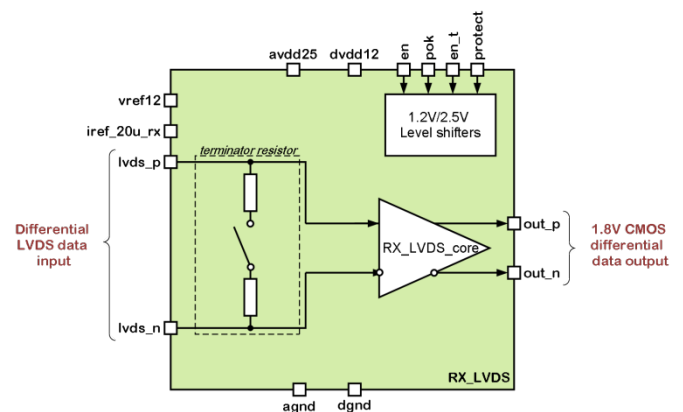


Figure 2: RX\_LVDS driver block diagram

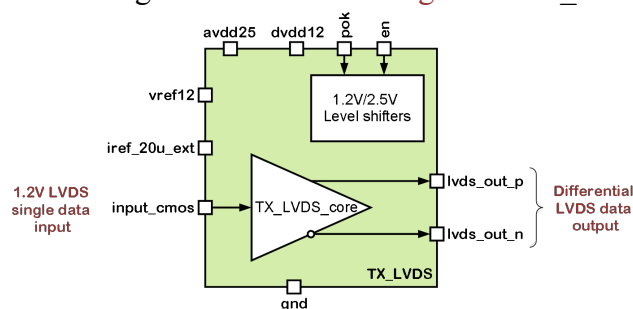


Figure 3: TX\_LVDS driver block diagram