

A Wide Range 1.0V-3.6V 200Mbps, Push-Pull Output Buffer Using Parasitic Bipolar Transistors

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This paper proposes an output buffer operating from 1.0 V of interface supply voltage VDDX. The driver uses parasitic bipolar transistors to maintain drivability at a lower supply voltage. Furthermore, we introduce a forward body bias control technique in a level converter to avoid speed degradation at a lower internal supply voltage VDD. A test chip was fabricated with a 0.15 μm CMOS technology, and it achieved 200 Mbps operation at VDDX of 1 V and VDD of 0.7 V.