

## 3.0V to 5.5V, Low-Power, up to 1Mbps, True RS-232 Transceivers Using Four 0.1 $\mu$ F External Capacitors

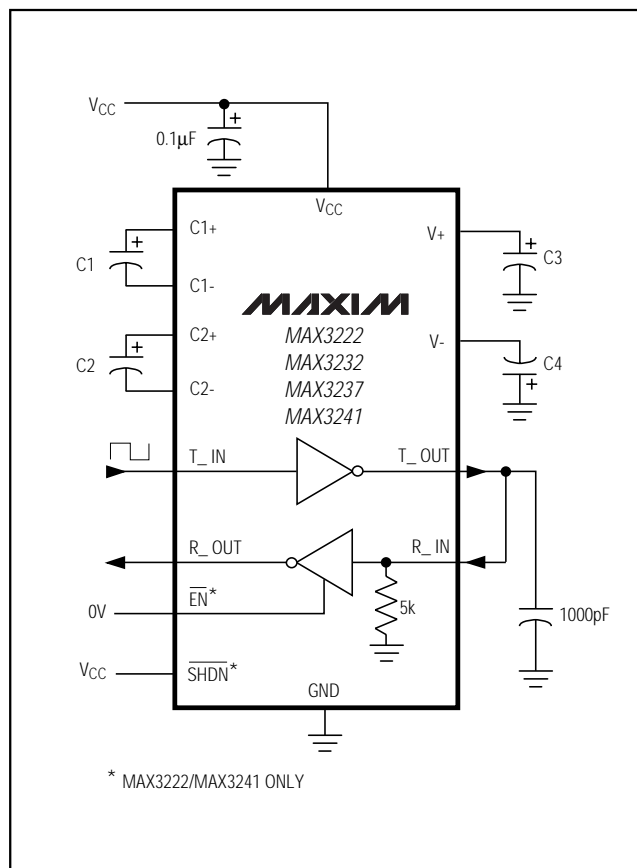


Figure 5. Loopback Test Circuit

### High Data Rates

The MAX3222/MAX3232/MAX3241 maintain the RS-232  $\pm 5.0V$  minimum transmitter output voltage even at high data rates. Figure 5 shows a transmitter loopback test circuit. Figure 6 shows a loopback test result at 120kbps, and Figure 7 shows the same test at 235kbps. For Figure 6, all transmitters were driven simultaneously at 120kbps into RS-232 loads in parallel with 1000pF. For Figure 7, a single transmitter was driven at 235kbps, and all transmitters were loaded with an RS-232 receiver in parallel with 1000pF.

The MAX3237 maintains the RS-232  $\pm 5.0V$  minimum transmitter output voltage at data rates up to 1Mbps. Figure 8 shows a loopback test result at 1000kbps with MBAUD = VCC. For Figure 8, all transmitters were loaded with an RS-232 receiver in parallel with 250pF.

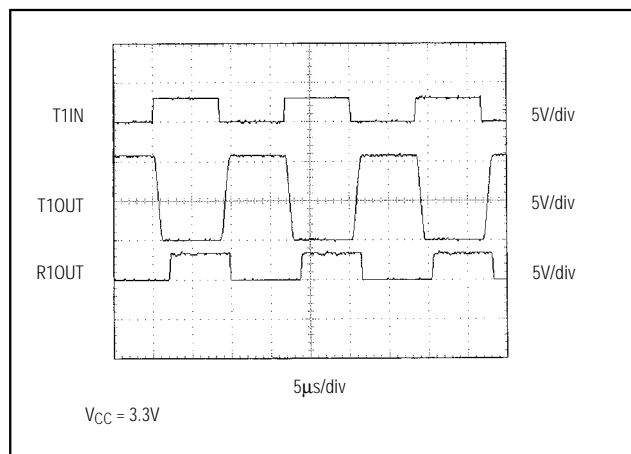


Figure 6. MAX3241 Loopback Test Result at 120kbps

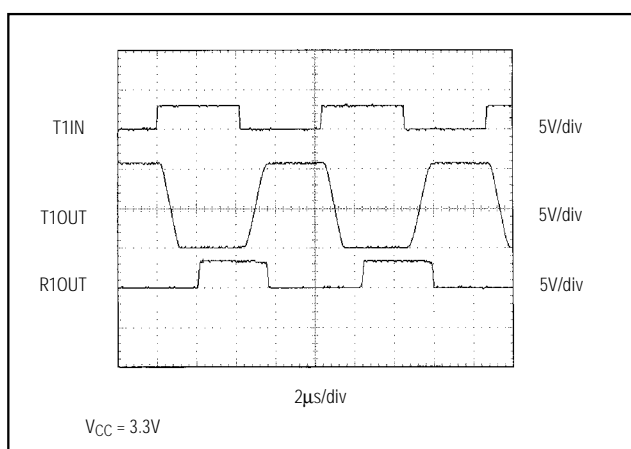


Figure 7. MAX3241 Loopback Test Result at 235kbps

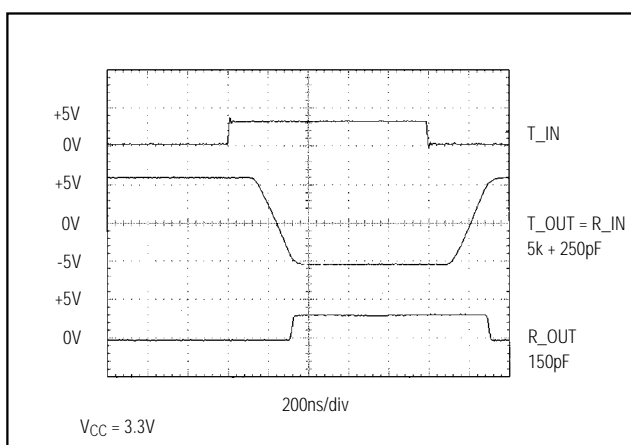


Figure 8. MAX3237 Loopback Test Result at 1000kbps (MBAUD = VCC)