ELECTRICAL CHARACTERISTICS

Note 1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

Note 2: All voltage values are with respect to GND with GND and OGND shorted (unless otherwise noted).

Note 3: When these pin voltages are taken below GND or above V_{DD}, they will be clamped by internal diodes. This product can handle input currents of greater than 100mA below GND or above V_{DD} without latchup.

Note 4: When these pin voltages are taken below GND they will be clamped by internal diodes. When these pin voltages are taken above V_{DD} they will not be clamped by internal diodes. This product can handle input currents of greater than 100mA below GND without latchup.

Note 5: V_{DD} = OV_{DD} = 1.8V, f_{SAMPLE} = 125MHz (LTC2165), 105MHz (LTC2164), or 80MHz (LTC2163), LVDS outputs, differential ENC^+/ENC^- = $2V_{P-P}$ sine wave, input range = $2V_{P-P}$ with differential drive, unless otherwise noted.

Note 6: Integral nonlinearity is defined as the deviation of a code from a best fit straight line to the transfer curve. The deviation is measured from the center of the quantization band.

Note 7: Offset error is the offset voltage measured from –0.5 LSB when the output code flickers between 0000 0000 0000 0000 and 1111 1111 1111 1111 in 2's complement output mode.

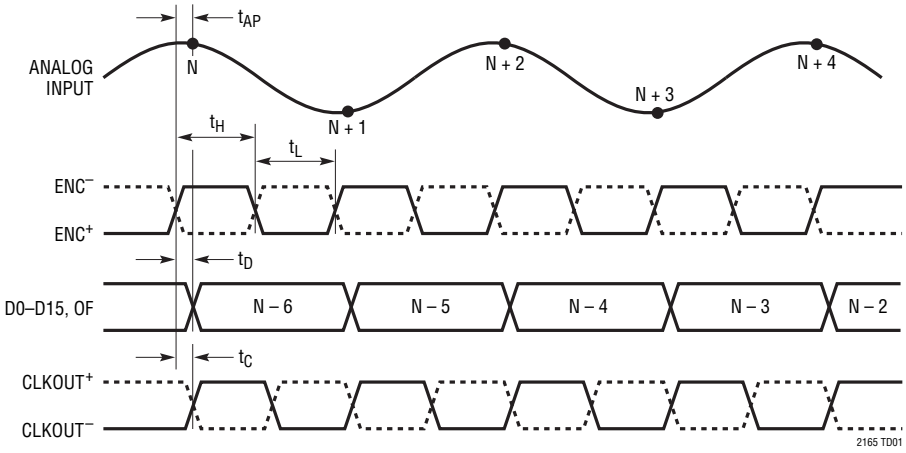
Note 8: Guaranteed by design, not subject to test.

Note 9: V_{DD} = 1.8V, f_{SAMPLE} = 125MHz (LTC2165), 105MHz (LTC2164), or 80MHz (LTC2163), CMOS outputs, ENC^+ = single-ended 1.8V square wave, ENC^- = 0V, input range = $2V_{P-P}$ with differential drive, 5pF load on each digital output unless otherwise noted.

Note 10: Recommended operating conditions.

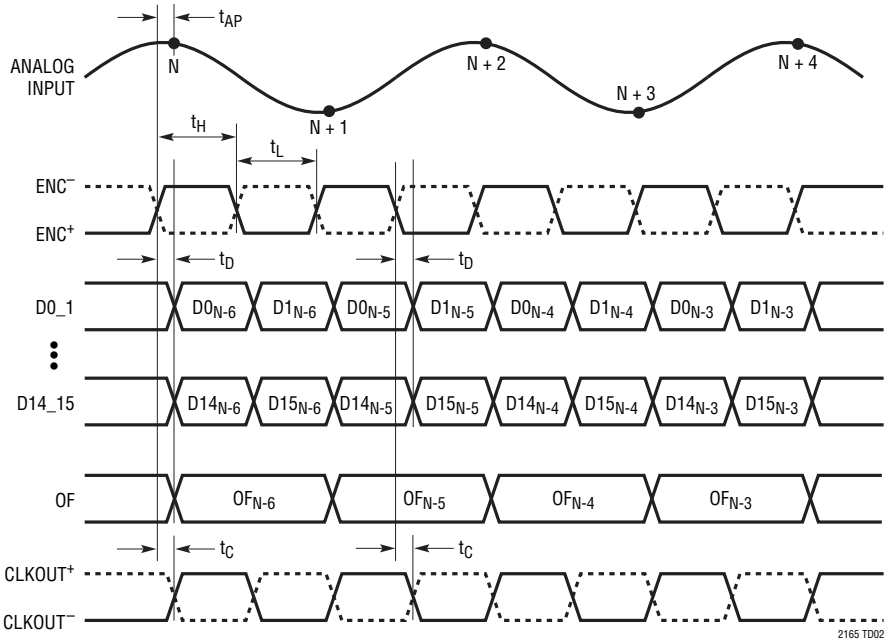
TIMING DIAGRAMS

Full-Rate CMOS Output Mode Timing
All Outputs are Single-Ended and Have CMOS Levels



TIMING DIAGRAMS

Double Data Rate CMOS Output Mode Timing
All Outputs are Single-Ended and Have CMOS Levels



Double Data Rate LVDS Output Mode Timing
All Outputs are Differential and Have LVDS Levels