12-bit, 8-channel, I2C-interface DAC Targets Multi-Channel, High-Density Applications

Texas Instruments Inc. recently introduced a 12-bit, 8-channel digital-to-analog converter (DAC) with I2C interface for multi-channel, high-density applications, such as power amplifier control in wireless base stations, portable instrumentation, data acquisition systems and laser bias control. The DAC7678 is the first 8-channel DAC from TI with a 2-wire I2C interface, which simplifies layout and minimizes design time. The DAC7678 includes integrated output buffer amplifiers and 2.5-V internal reference, and it can be configured to reset to zero or mid-scale. For more information on this new data converter, visit: www.ti.com/dac7678-pr [1] Key features and benefits include: • High channel count integration, I2C interface, and integrated precision reference simplify layout and minimize design time for high-density applications, while a 24-pin, 4-mm x 4-mm QFN package saves board space, making it suitable for portable applications. • Integrated precision reference with low drift, +/- 5 mV initial accuracy and 20-mA sink/source capability eliminates the need for external reference, saving board space and cost. • Excellent low-power performance of 0.13 mA/channel at 5 V allows designers to achieve high accuracy of +/- 1 LSB maximum INL, settling time of 7 us and ultra-low glitch of 0.15 nV-s. • Fully characterized over a wide temperature range of -40° C to 125° C for use in industrial applications. The DAC7678 is available now in a 4-mm x 4-mm QFN-24 or a 5-mm x 6-mm TSSOP-16 package. 8-bit (DAC5578), 10-bit (DAC6578) and 12-bit (DAC7578) versions without an integrated precision reference are also available.

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[1] http://www.ti.com/dac7678-pr