

ABSTRACTOptical Isolation Amplifier with
Sigma-Delta Modulation

An optical isolation amplifier which generates a low-noise analog output signal linearly related to an analog input signal and fits within a conventional 8-pin dual in-line package (1) comprises an input chip (2) having a sigma-delta analog-to-digital (A/D) converter (7) for converting an analog input signal to a digital signal. The sigma-delta converter (7) is used to modulate an off-chip LED (13) which optically transmits the signal to a photodetector (15) on a separate output chip (3) having an accurate optical recovery section (17) for reproducing the transmitted signal. Also contained on the output chip (3) is a digital-to-analog (D/A) converter (21) for converting the digital signal to an analog output signal linearly related to the analog input signal.

(Fig. 1)