ABSTRACT

Liquid crystal display (LCD) have been considered as a viable alternative to CRT due to its potential of achieving light weight, small volume, low voltage, low power. Due to the large number of output buffer in a column driver chip of a flat-panel display, the quiescent current and reliability become very importance. This paper present a low static power, large output swing, and wide operating frequency range class AB output buffer amplifier for driving the large column line capacitance in flat-panel display. A comparator is used in the negative feedback path to eliminate quiescent current in the output stage. With 3.3V supply voltage and 700pf load, output swing is from 0.5V to 3V and the operation frequency range is 30KHz to 100KHz. This buffer circuit has been demonstrated successfully using the TSMC's 0.6 CMOS technology.

Keywords: Liquid crystal display LCD; output buffer