Application Note 40

Using the RC6333/RC6334 Video Amplifiers as Set-Top Box Buffers/Drivers

Introduction

The RC6333/RC6334 are ideal as general purpose amplifiers and specially suited for high speed and high performance requirements of buffers/drivers in set-top boxes. They can meet needs of the front end and the back-end part ofthe system where Analog to Digital or Digital To Analog convertion takes place.

Figure 1 shows the use of the RC6333/RC6334 at the output of a video encoder for buffering multiple outputs. Although newer encoders may directly drive single loads, the use of a buffer improves the return loss and offers ESD protection against signals from TV. The output of the encoder or DAC is usually a current signal that is converted into a voltage and filtered. Use of the buffer allows the DAC load to be dropped to 500Ω from the 150Ω usually used, thus reducing the power. This results in better signal quality and performance from the encoders in a cost-effective manner.

High frequency applications require good grounding, power supply decouping, low parasitic capacitance and inductance, and good isolation between inputs to minimize their crosstalk. Avoid coupling from output to input to prevent positive feedback.

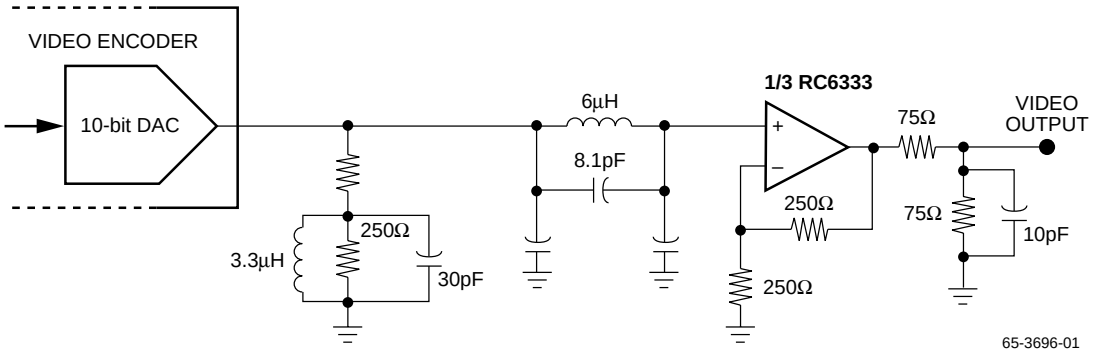

Figure 1. Output Buffer for Video Encoder/DACs

LIFE SUPPORT POLICY:

Raytheon Electronics
Semiconductor Division
350 Ellis Street
Mountain View CA 94043
415.968.9211
800.722.7074
FAX 415.966.7742

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