

## AD5933 Output Impedance

AC coupling at the VOUT output of the AD5933 creates signal attenuation due to the  $R_O/R_1/C_1$  pole and  $C_1/R_1$  zero. Where  $R_O$  is the  $600\Omega$  output impedance when the AD5933 is configured in output Range 4.

With  $1\mu\text{F}$  and  $1.6\text{k}\Omega$   $C_1/R_1$  combination, the  $100\text{ kHz}$  signal is attenuated by approximately  $2.8\text{dB}$ .

Changing to the recommended values of  $47\text{nF}$  and  $25\text{k}\Omega$  from the AD5933 datasheet results in a much lower attenuation of approximately  $0.2\text{dB}$ .

Equivalent Circuit and Bode plot:

