AD8397 Die Rev

PCN Data Sheet Changes

AHEAD OF WHAT'S POSSIBLE™

AD8397 Ballast Resistors Die Revision

- The goal of this document is to provide the “From” and “To” datasheet spec changes and TPC changes which will accompany the PCN
- The following pages include changes to the spec table

AD8397 Ballast Resistors Die Revision

SPECIFICATIONS

V_S = ±1.5 V or +3 V (at T_A = 25°C, G = +1, R_L = 25 Ω, unless otherwise noted)[1].

Table 1.

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit

- From:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+1.39	+1.43		V_P
−Swing	R_{LOAD} = 25 Ω		−1.4	−1.37	V_P
+Swing	R_{LOAD} = 100 Ω	+1.45	+1.48		V_P
−Swing	R_{LOAD} = 100 Ω		−1.47	−1.44	V_P
Peak AC Output Current[2]	SFDR ≤ −70 dBc, f = 100 kHz, V_{OUT} = 0.7 V_P, R_{LOAD} = 4.1 Ω		170		mA

- To:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+1.33	+1.39		V_P
−Swing	R_{LOAD} = 25 Ω		−1.36	−1.34	V_P
+Swing	R_{LOAD} = 100 Ω	+1.43	+1.47		V_P
−Swing	R_{LOAD} = 100 Ω		−1.46	−1.42	V_P
Peak AC Output Current[2]	SFDR ≤ −70 dBc, f = 100 kHz, V_{OUT} = 0.7 V_P, R_{LOAD} = 4.1 Ω		170		mA

AD8397 Ballast Resistors Die Revision

V_S = ±2.5V or +5 V (at T_A = 25°C, G = +1, R_L = 25 Ω, unless otherwise noted)[1].

Table 2.

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit

- From:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+2.37	+2.42		V_P
−Swing	R_{LOAD} = 25 Ω		−2.37	−2.32	V_P
+Swing	R_{LOAD} = 100 Ω	+2.45	+2.48		V_P
−Swing	R_{LOAD} = 100 Ω		−2.46	−2.42	V_P
Peak AC Output Current[2]	SFDR ≤ −70 dBc, f = 100 kHz, V_{OUT} = 1.0 V_P, R_{LOAD} = 4.3 Ω		230		mA

- To:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+2.29	+2.35		V_p
−Swing	R_{LOAD} = 25 Ω		−2.29	−2.22	V_p
+Swing	R_{LOAD} = 100 Ω	+2.4	+2.45		V_p
−Swing	R_{LOAD} = 100 Ω		−2.43	−2.38	V_p
Peak AC Output Current[2]	SFDR ≤ −70 dBc, f = 100 kHz, V_{OUT} = 1.0 V_p, R_{LOAD} = 4.3 Ω		230		mA

AD8397 Ballast Resistors Die Revision

V_S = ±5 V or +10 V (at T_A = 25°C, G = +1, R_L = 25 Ω, unless otherwise noted)[1].

Table 3.

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit

- From:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+4.7	+4.82		V_P
−Swing	R_{LOAD} = 25 Ω		−4.74	−4.65	V_P
+Swing	R_{LOAD} = 100 Ω	+4.92	+4.96		V_P
−Swing	R_{LOAD} = 100 Ω		−4.92	−4.88	V_P
Peak AC Output Current[2]	SFDR ≤ −80 dBc, f = 100 kHz, V_{OUT} = 3 V_P, R_{LOAD} = 12 Ω		250		mA

- To:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 25 Ω	+4.48	+4.69		V_P
−Swing	R_{LOAD} = 25 Ω		−4.90	−4.42	V_P
+Swing	R_{LOAD} = 100 Ω	+4.87	+4.92		V_P
−Swing	R_{LOAD} = 100 Ω		−4.88	−4.81	V_P
Peak AC Output Current[2]	SFDR ≤ −80 dBc, f = 100 kHz, V_{OUT} = 3 V_P, R_{LOAD} = 12 Ω		250		mA

AD8397 Ballast Resistors Die Revision

V_S = ±12 V or +24 V (at T_A = 25°C, G = +1, R_L = 25 Ω, unless otherwise noted)[1].

Table 4.

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit

- From:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 100 Ω	+11.82	+11.89		V_P
−Swing	R_{LOAD} = 100 Ω		−11.83	−11.77	V_P
Peak AC Output Current[2]	SFDR ≤ −80 dBc, f = 100 kHz, V_{OUT} = 10 V_P, R_{LOAD} = 32 Ω		310		mA

- To:

OUTPUT CHARACTERISTICS					
Output Resistance			0.2		Ω
+Swing	R_{LOAD} = 100 Ω	+11.67	+11.81		V_P
−Swing	R_{LOAD} = 100 Ω		−11.72	−11.58	V_P
Peak AC Output Current[2]	SFDR ≤ −80 dBc, f = 100 kHz, V_{OUT} = 10 V_P, R_{LOAD} = 32 Ω		310		mA

AD8397 Ballast Resistors Die Revision

- The following pages include changes to the TPC’s

AD8397 Ballast Resistors Die Revision

- From:

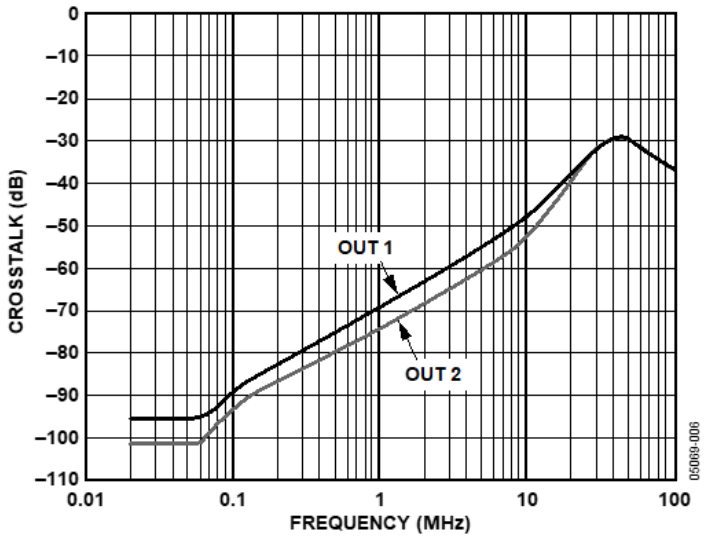
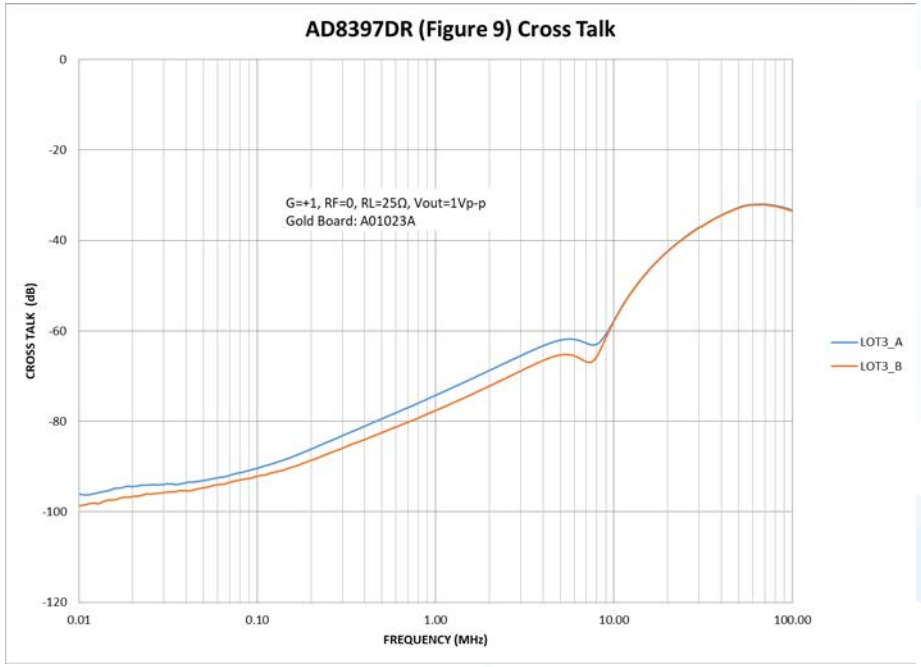


Figure 9. Output-to-Output Crosstalk vs. Frequency
(V_S = ±5 V, V_O = 1 V p-p, R_L = 25 Ω)

- To:



AD8397 Ballast Resistors Die Revision

- From:

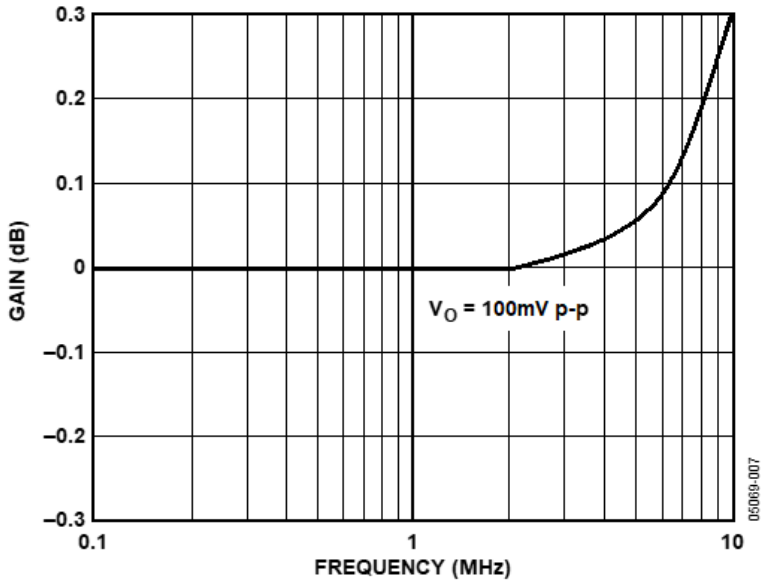
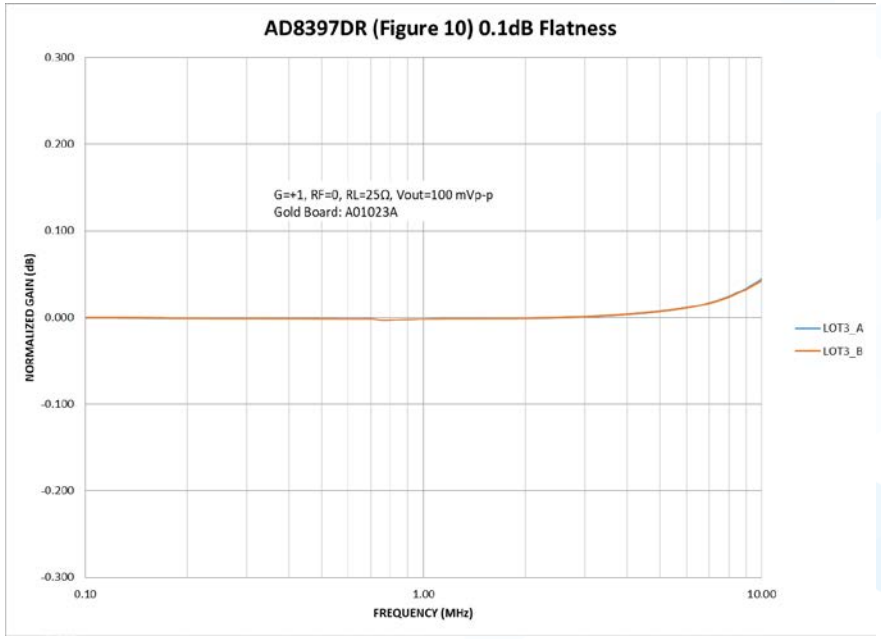


Figure 10. 0.1 dB Flatness
(V_S = ±5 V, V_O = 0.1 V p-p, Gain = +1, R_L = 25 Ω)

- To:



AD8397 Ballast Resistors Die Revision

- From:

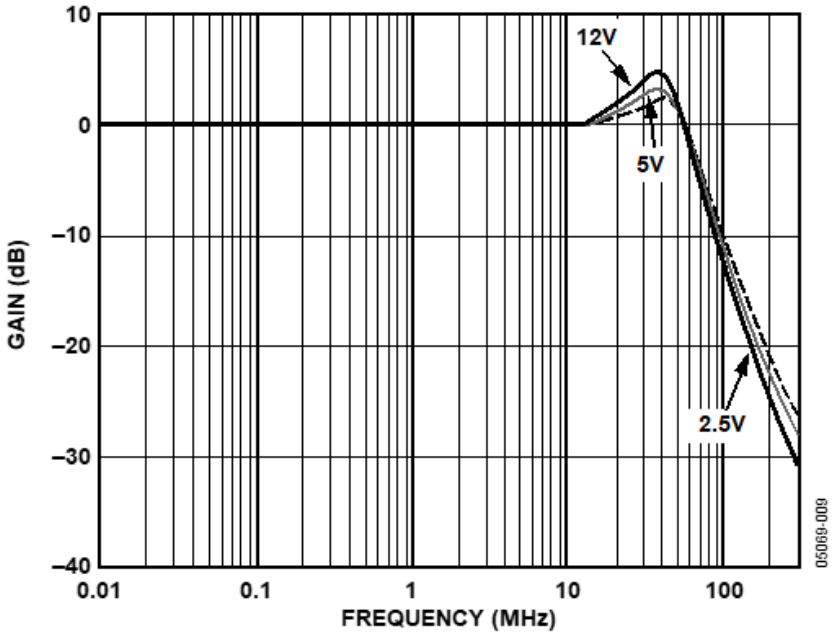
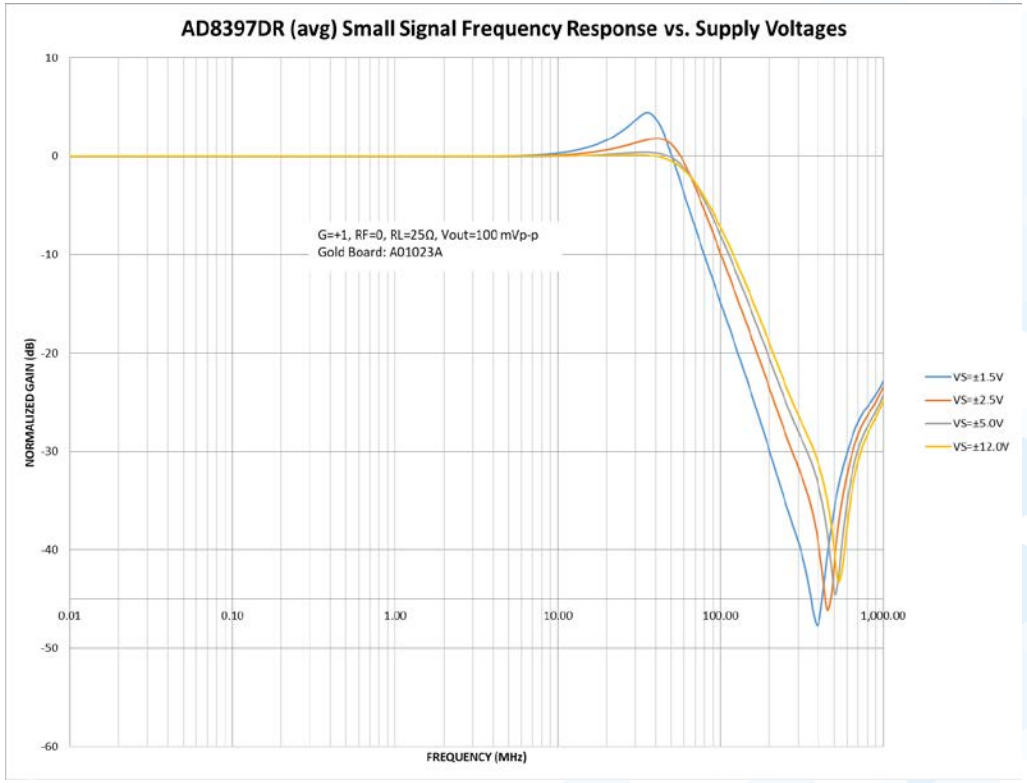


Figure 12. Small Signal Frequency Response for Various Supplies (Gain = +1, V_O = 0.1 V p-p, R_L = 25 Ω)

- To:



AD8397 Ballast Resistors Die Revision

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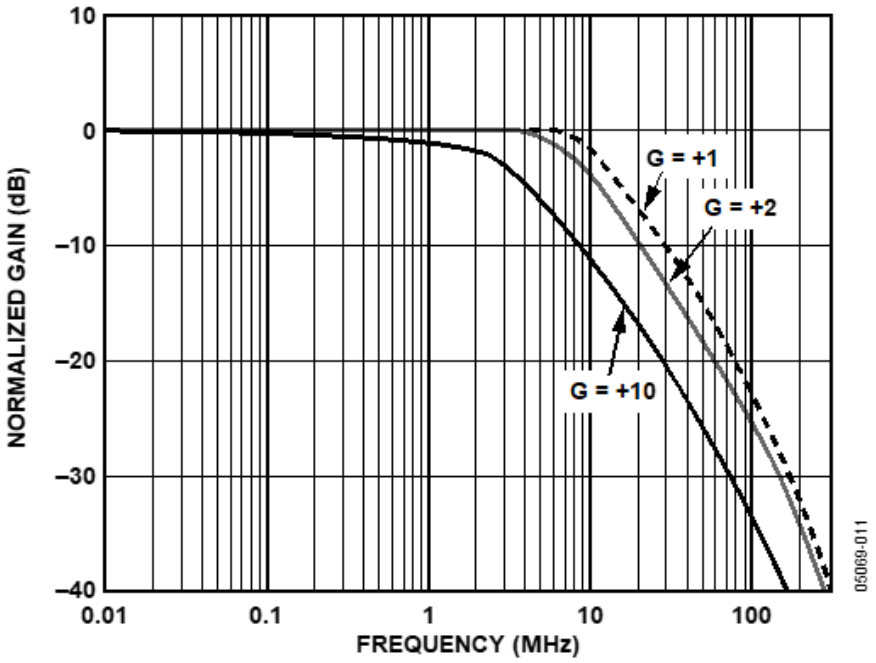
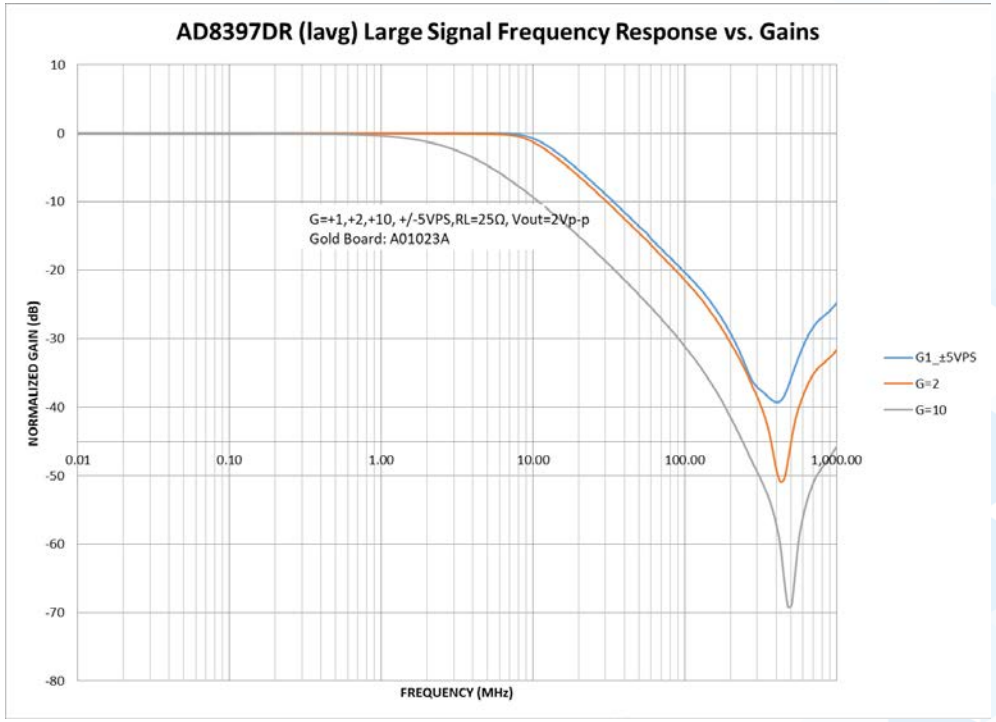


Figure 14. Large Signal Frequency Response for Various Gains
(V_S = ±5 V, V_O = 2 V p-p, R_L = 25 Ω)

- To:



AD8397 Ballast Resistors Die Revision

- From:

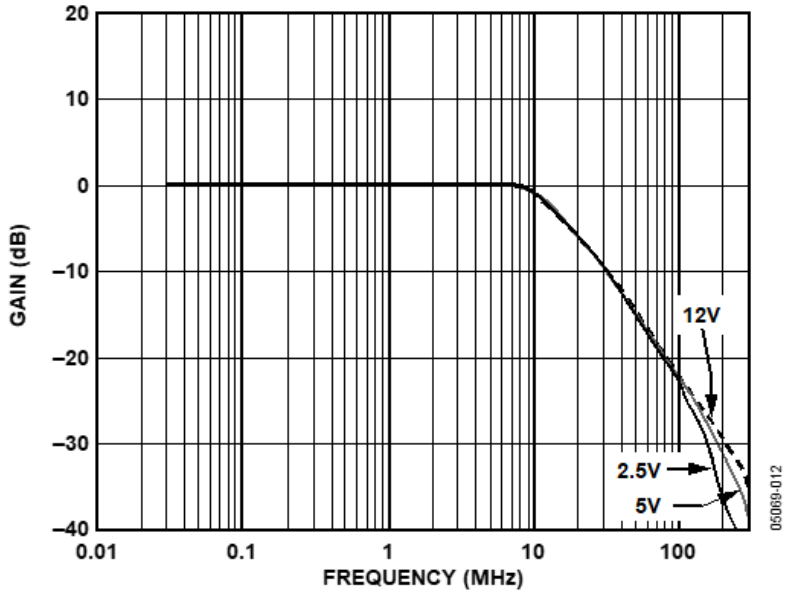
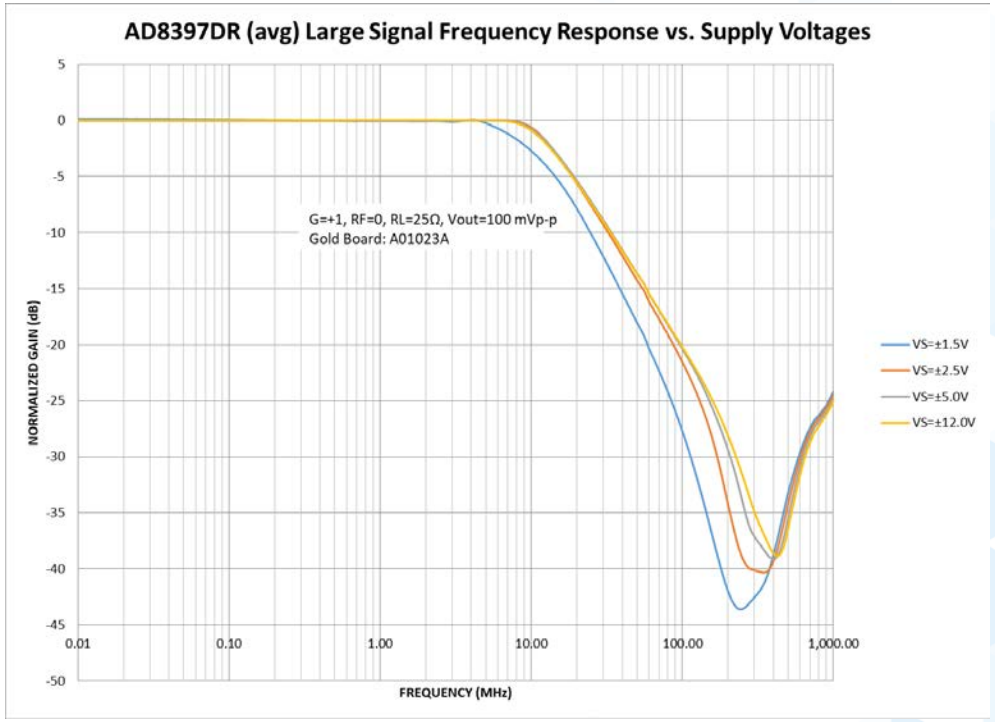


Figure 15. Large Signal Frequency Response for Various Supplies (Gain = +1, V_O = 2 V p-p, R_L = 25 Ω)

- To:



AD8397 Ballast Resistors Die Revision

Figure 2. Output swing, Vs=+/-1.5V, Rl=25 Ohms

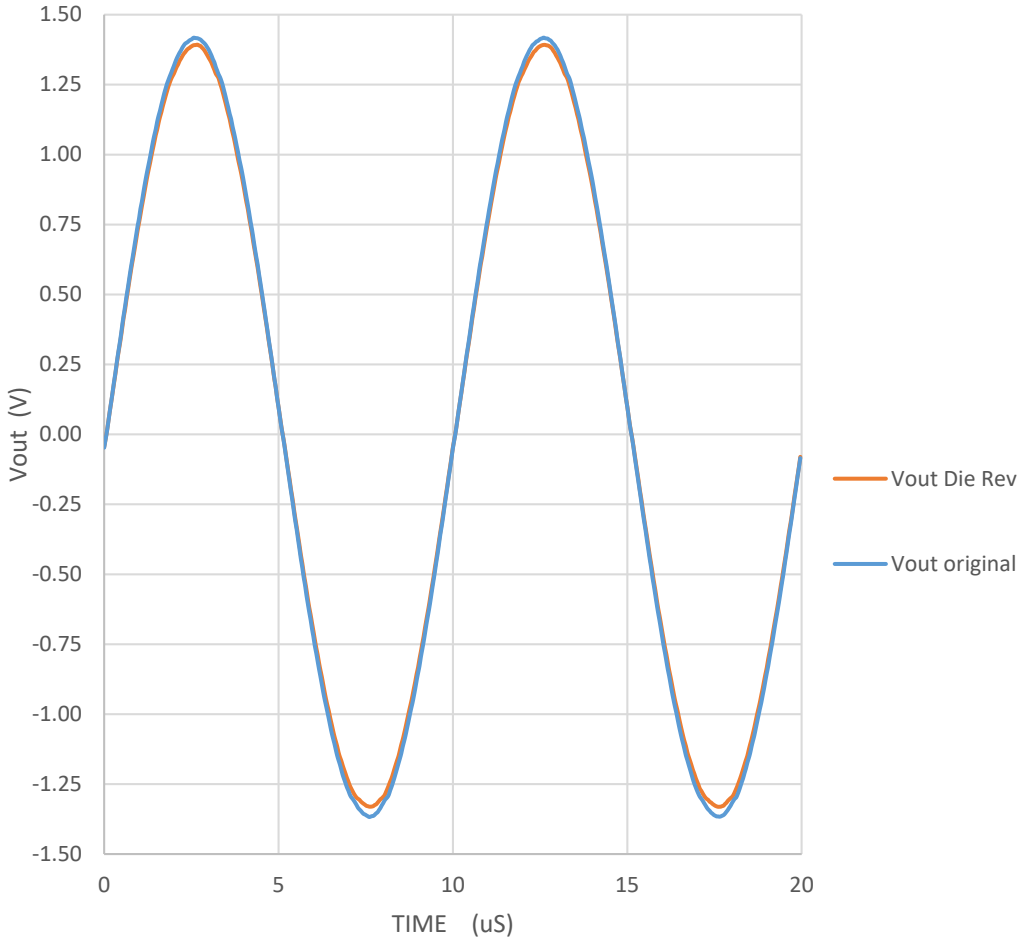


Figure 3. Positive Output Swing, Vs=+/-12V, RL=100 Ohms

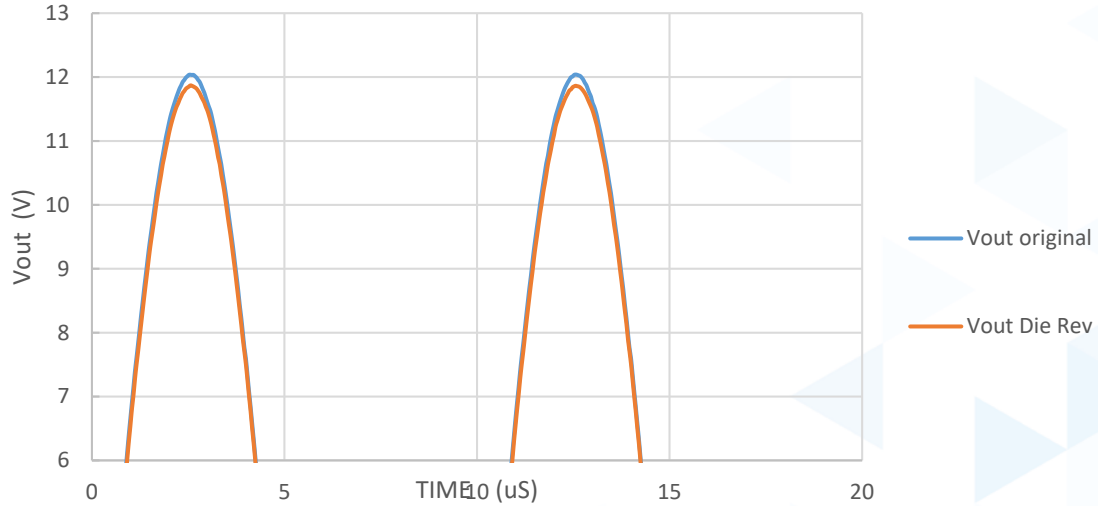


Figure 3. Negative Output Swing, Vs=+/-12V, RL=100 Ohms