CHANGE NOTIFICATION

Analog Devices, Inc.
1630 McCarthy Blvd., Milpitas, CA 95035-7417
(408) 432-1900

April 24, 2017

Dear Sir/Madam: PCN#042117

Subject: **Notification of Change to LTC6910-1, LTC6910-2, LTC6910-3 Datasheet**

Please be advised that Analog Devices, Inc. Milpitas, California has made changes to the voltage gain specs (Gain = 100V/V and 64V/V, RL = 500Ω) of the LTC6910 parts to improve manufacturability. The changes are shown on the attached pages of the marked up datasheet. There are no die changes or changes to other specifications. The product shipped after June 24, 2017 will be tested to the new limits.

Should you have any concerns, please contact me before June 24, 2017, at which time we will consider this change to be approved. Should you have any questions or concerns please contact your local Linear Technology/Analog Devices Sales person or you may contact me at 408-432-1900 ext. 2077, or by e-mail at JASON.HU@ANALOG.COM.

Sincerely,

Jason Hu
Quality Assurance Engineer

35.4 38.5

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications that apply over the full operating temperature range, otherwise specifications are at T_A = 25°C. V_S = 5V, AGND = 2.5V, Gain = 1 (Digital Inputs 001), R_L = 10k to midsupply point, unless otherwise noted.

PARAMETER	CONDITIONS		LTC6910-1C/LTC6910-1I MIN	TYP	MAX	LTC6910-1H MIN	TYP	MAX	UNIT
Specifications for LTC6910-1 Only									
Voltage Gain (Note 7)	V_S = 2.7V, Gain = 1, R_L = 10k	●	–0.05	0	0.07	–0.06	0	0.07	dB
	V_S = 2.7V, Gain = 1, R_L = 500Ω	●	–0.1	–0.02	0.06	–0.12	–0.02	0.08	dB
	V_S = 2.7V, Gain = 2, R_L = 10k	●	5.96	6.02	6.08	5.96	6.02	6.08	dB
	V_S = 2.7V, Gain = 5, R_L = 10k	●	13.85	13.95	14.05	13.83	13.95	14.05	dB
	V_S = 2.7V, Gain = 10, R_L = 10k	●	19.7	19.9	20.1	19.7	19.9	20.1	dB
	V_S = 2.7V, Gain = 10, R_L = 500Ω	●	19.6	19.85	20.1	19.4	19.85	20.1	dB
	V_S = 2.7V, Gain = 20, R_L = 10k	●	25.7	25.9	26.1	25.65	25.9	26.1	dB
	V_S = 2.7V, Gain = 50, R_L = 10k	●	33.5	33.8	34.1	33.4	33.8	34.1	dB
	V_S = 2.7V, Gain = 100, R_L = 10k	●	39	39.6	40.2	38.7	39.6	40.2	dB
	V_S = 2.7V, Gain = 100, R_L = 500Ω	●	37.4	39	40.1	36.4	39	40.1	dB
	V_S = 5V, Gain = 1, R_L = 10k	●	–0.05	0	0.07	–0.05	0	0.07	dB
	V_S = 5V, Gain = 1, R_L = 500Ω	●	–0.1	–0.01	0.08	–0.11	–0.01	0.08	dB
	V_S = 5V, Gain = 2, R_L = 10k	●	5.96	6.02	6.08	5.955	6.02	6.08	dB
	V_S = 5V, Gain = 5, R_L = 10k	●	13.8	13.95	14.1	13.75	13.95	14.1	dB
	V_S = 5V, Gain = 10, R_L = 10k	●	19.8	19.9	20.1	19.75	19.9	20.1	dB
	V_S = 5V, Gain = 10, R_L = 500Ω	●	19.6	19.85	20.1	19.45	19.85	20.1	dB
	V_S = 5V, Gain = 20, R_L = 10k	●	25.8	25.9	26.1	25.70	25.9	26.1	dB
	V_S = 5V, Gain = 50, R_L = 10k	●	33.5	33.8	34.1	33.4	33.8	34.1	dB
	V_S = 5V, Gain = 100, R_L = 10k	●	39.3	39.7	40.1	39.1	39.7	40.1	dB
	V_S = 5V, Gain = 100, R_L = 500Ω	●	38	39.2	40.1	37	39.2	40.1	dB
	V_S = ±5V, Gain = 1, R_L = 10k	●	–0.05	0	0.07	–0.05	0	0.07	dB
	V_S = ±5V, Gain = 1, R_L = 500Ω	●	–0.1	–0.01	0.08	–0.1	–0.01	0.08	dB
	V_S = ±5V, Gain = 2, R_L = 10k	●	5.96	6.02	6.08	5.96	6.02	6.08	dB
	V_S = ±5V, Gain = 5, R_L = 10k	●	13.80	13.95	14.1	13.80	13.95	14.1	dB
	V_S = ±5V, Gain = 10, R_L = 10k	●	19.8	19.9	20.1	19.75	19.9	20.1	dB
	V_S = ±5V, Gain = 10, R_L = 500Ω	●	19.7	19.9	20.1	19.6	19.9	20.1	dB
	V_S = ±5V, Gain = 20, R_L = 10k	●	25.8	25.95	26.1	25.75	25.95	26.1	dB
	V_S = ±5V, Gain = 50, R_L = 10k	●	33.7	33.85	34	33.6	33.85	34	dB
	V_S = ±5V, Gain = 100, R_L = 10k	●	39.4	39.8	40.2	39.25	39.8	40.2	dB
	V_S = ±5V, Gain = 100, R_L = 500Ω	●	38.8	39.6	40.1	38	39.6	40.1	dB
Offset Voltage Magnitude (Internal Op Amp) ($V_{OS(OA)}$) (Note 8)		●		1.5	9		1.5	11	mV
Offset Voltage Drift (Internal Op Amp) (Note 8)				6			8		µV/°C
Offset Voltage Magnitude (Referred to "IN" Pin) ($V_{OS(IN)}$)	Gain = 1	●		3	15		3	18	mV
	Gain = 10	●		1.7	10		1.7	12	mV
DC Input Resistance (Note 9)	DC V_{IN} = 0V								
	Gain = 0			>100			>100		MΩ
	Gain = 1	●		10			10		kΩ
	Gain = 2	●		5			5		kΩ
	Gain = 5	●		2			2		kΩ
	Gain = 10, 20, 50, 100	●		1			1		kΩ

36.4 38.5 38.7 37 39.1 37.8 36 38.7 37 39.1

32.7 34.8

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications that apply over the full operating temperature range, otherwise specifications are at T_A = 25°C. V_S = 5V, AGND = 2.5V, Gain = 1 (Digital Inputs 001), R_L = 10k to midsupply point, unless otherwise noted.

PARAMETER	CONDITIONS		LTC6910-2C/LTC6910-2I MIN	TYP	MAX	LTC6910-2H MIN	TYP	MAX	UNIT
Specifications for LTC6910-2 Only									
Voltage Gain (Note 7)	V_S = 2.7V, Gain = 1, R_L = 10k	●	–0.06	0	0.08	–0.07	0	0.08	dB
	V_S = 2.7V, Gain = 1, R_L = 500Ω	●	–0.1	–0.02	0.06	–0.11	–0.02	0.06	dB
	V_S = 2.7V, Gain = 2, R_L = 10k	●	5.96	6.02	6.1	5.95	6.02	6.1	dB
	V_S = 2.7V, Gain = 4, R_L = 10k	●	11.9	12.02	12.12	11.9	12.02	12.12	dB
	V_S = 2.7V, Gain = 8, R_L = 10k	●	17.8	17.98	18.15	17.8	17.98	18.15	dB
	V_S = 2.7V, Gain = 8, R_L = 500Ω	●	17.65	17.95	18.15	17.55	17.95	18.15	dB
	V_S = 2.7V, Gain = 16, R_L = 10k	●	23.75	24	24.2	23.75	24	24.2	dB
	V_S = 2.7V, Gain = 32, R_L = 10k	●	29.7	30	30.2	29.65	30	30.2	dB
	V_S = 2.7V, Gain = 64, R_L = 10k	●	35.3	35.75	36.2	35.2	35.75	36.2	dB
	V_S = 2.7V, Gain = 64, R_L = 500Ω	●	~~34.2~~	~~35.3~~	36.2	~~33.7~~	~~35.3~~	36.2	dB
	V_S = 5V, Gain = 1, R_L = 10k	●	–0.06	0	0.08	–0.06	0	0.08	dB
	V_S = 5V, Gain = 1, R_L = 500Ω	●	–0.1	–0.01	0.08	–0.11	–0.01	0.08	dB
	V_S = 5V, Gain = 2, R_L = 10k	●	5.96	6.02	6.1	5.96	6.02	6.1	dB
	V_S = 5V, Gain = 4, R_L = 10k	●	11.85	12.02	12.15	11.85	12.02	12.15	dB
	V_S = 5V, Gain = 8, R_L = 10k	●	17.85	18	18.15	17.85	18	18.15	dB
	V_S = 5V, Gain = 8, R_L = 500Ω	●	17.65	17.9	18.15	17.6	17.9	18.15	dB
	V_S = 5V, Gain = 16, R_L = 10k	●	23.85	24	24.15	23.78	24	24.15	dB
	V_S = 5V, Gain = 32, R_L = 10k	●	29.7	30	30.2	29.7	30	30.2	dB
	V_S = 5V, Gain = 64, R_L = 10k	●	35.6	35.9	36.2	35.5	35.9	36.2	dB
	V_S = 5V, Gain = 64, R_L = 500Ω	●	~~34.8~~	~~35.5~~	36	~~34.2~~	~~35.5~~	36	dB
	V_S = ±5V, Gain = 1, R_L = 10k	●	–0.05	0	0.07	–0.05	0	0.07	dB
	V_S = ±5V, Gain = 1, R_L = 500Ω	●	–0.1	–0.01	0.08	–0.1	–0.01	0.08	dB
	V_S = ±5V, Gain = 2, R_L = 10k	●	5.96	6.02	6.1	5.96	6.02	6.1	dB
	V_S = ±5V, Gain = 4, R_L = 10k	●	11.9	12.02	12.15	11.9	12.02	12.15	dB
	V_S = ±5V, Gain = 8, R_L = 10k	●	17.85	18	18.15	17.85	18	18.15	dB
	V_S = ±5V, Gain = 8, R_L = 500Ω	●	17.80	17.95	18.1	17.72	17.95	18.1	dB
	V_S = ±5V, Gain = 16, R_L = 10k	●	23.85	24	24.15	23.8	24	24.15	dB
	V_S = ±5V, Gain = 32, R_L = 10k	●	29.85	30	30.15	29.78	30	30.15	dB
	V_S = ±5V, Gain = 64, R_L = 10k	●	~~35.7~~	35.95	36.2	35.7	35.95	36.2	dB
	V_S = ±5V, Gain = 64, R_L = 500Ω	●	~~35.2~~	~~35.8~~	36.2	~~34.8~~	~~35.8~~	36.2	dB
Offset Voltage Magnitude (Internal Op Amp) ($V_{OS(OA)}$) (Note 8)		●		1.5	9		1.5	11	mV
Offset Voltage Drift (Internal Op Amp) (Note 8)		●		6			8		µV/°C
Offset Voltage Magnitude (Referred to "IN" Pin) ($V_{OS(IN)}$)	Gain = 1	●		3	15		3	17	mV
	Gain = 8	●		2	10		2	12	mV
DC Input Resistance (Note 9)	DC V_{IN} = 0V								
	Gain = 0			>100			>100		MΩ
	Gain = 1	●		10			10		kΩ
	Gain = 2	●		5			5		kΩ
	Gain = 4	●		2.5			2.5		kΩ
	Gain = 8, 16, 32, 64	●		1.25			1.25		kΩ

34.8 33.2 35 33.8 35.3 34.2 33.2 35 33.8 35.3