EV12AD550B
Evolution from Preliminary datasheet (DS1198A) to Production datasheet (DS1198B)

Purpose and Disclaimer

This document describes the specifications modifications to be taken into account when using EV12AD550B, for customers who have ordered parts based on the Preliminary datasheet (DS1198A). These changes have been applied and result in the Production datasheet DS1198B.
These changes concern the following specifications: power supply current consumption, power dissipation, LVDS output, Differential Non-Linearity and Gain flatness.

For any question, please contact Hotline-BDC@Teledyne-e2v.com.

Applicable documentation

DS1198A: Preliminary Datasheet

Power requirements

The power requirements specifications are adjusted between DS1198A and DS1198B. These changes concern the min I_{CCA} and min I_{CCD} power supply current consumptions and power dissipation in full standby mode, in DMUX 1:1 and DMUX 1:2. See corresponding table in “Electrical Characteristics for supplies, inputs and outputs”.

Power consumption in DMUX1:1

Datasheet Revision	Parameter	Symbol	Value			Unit
			Min	Typ	Max	
	POWER REQUIREMENTS					
1198A	Power supply current in DMUX 1:1					
	• Analog, VCCA = 3.4V	I_{CCA}	1000 (930)	1044	1110 (1200)	mA
	• Digital					
	VCCD = 3.4V	I_{CCD}	150 (140)	173	190 (200)	mA
	VCCD = 2.5V	I_{CCD}	140 (130)	170	185 (195)	mA
1198B	Power supply current in DMUX 1:1					
	• Analog, VCCA = 3.4V	I_{CCA}	**950** (930)	1045	1110 (1200)	mA
	• Digital					
	VCCD = 3.4V	I_{CCD}	**120** (**100**)	**155**	**175** (185)	mA
	VCCD = 2.5V	I_{CCD}	**115** (**95**)	**148**	**170** (180)	mA

Power consumption in DMUX1:2

Datasheet Revision	Parameter	Symbol	Value			Unit
			Min	Typ	Max	
	POWER REQUIREMENTS					
1198A	Power supply current in DMUX 1:2					
	• Analog, VCCA = 3.4V	I_{CCA}	1000 (930)	1045	1110 (1200)	mA
	• Digital					
	VCCD = 3.4V	I_{CCD}	130 (110)	155	175 (185)	mA
	VCCD = 2.5V	I_{CCD}	125 (105)	148	170 (180)	mA
1198B	Power supply current in DMUX 1:2					
	• Analog, VCCA = 3.4V	I_{CCA}	**950** (930)	1045	1110 (1200)	mA
	• Digital					
	VCCD = 3.4V	I_{CCD}	**120** (100)	155	175 (185)	mA
	VCCD = 2.5V	I_{CCD}	**115** (95)	148	170 (180)	mA

Power dissipation in full standby mode

Datasheet Revision	Parameter	Symbol	Value			Unit
			Min	Typ	Max	
	POWER REQUIREMENTS					
1198A	Power dissipation in full standby mode (VCCA = VCCD = VCCIOxx = 3.4V) • DEMUX1:1 • DEMUX1:2	P_D		1.9 2.3	2 (2.2) 2.5 (2.6)	W W
1198B	Power dissipation in full standby mode (VCCA = VCCD = VCCIOxx = 3.4V) • DEMUX1:1 • DEMUX1:2	P_D		**1.6** **1.9**	**2.1** (2.2) 2.5 (2.6)	W W

LVDS output

The LVDS output specifications are adjusted between DS1198A and DS1198B. These changes concern the common mode output voltage as well as the logic high and low levels. See corresponding table in “Electrical Characteristics for supplies, inputs and outputs”.

Datasheet Revision	Parameter		Symbol	Value			Unit
				Min	Typ	Max	
	LVDS OUTPUT						
1198A	Full swing	- Common mode voltage	VO_{CM}	1.23	1.36	1.48	V
		- Swing	$V_{OH} - V_{OL}$	230	320	480	mVp
		- Logic low	V_{OL}			1.30	V
		- Logic high	V_{OH}	1.40			V
	Reduced swing	- Common mode voltage	VO_{CM}	1.25	1.36	1.50	V
		- Swing	$V_{OH} - V_{OL}$	200	290	350	mVp
		- Logic low	V_{OL}			1.35	V
		- Logic high	V_{OH}	1.40			V
1198B	Full swing	- Common mode voltage	VO_{CM}	**1.20**	1.36	**1.55**	V
		- Swing	$V_{OH} - V_{OL}$	230	320	480	mVp
		- Logic low	V_{OL}			1.30	V
		- Logic high	V_{OH}	1.40			V
	Reduced swing	- Common mode voltage	VO_{CM}	**1.20**	1.36	**1.55**	V
		- Swing	$V_{OH} - V_{OL}$	200	290	350	mVp
		- Logic low	V_{OL}			**1.40**	V
		- Logic high	V_{OH}	**1.35**			V

Integral and Differential Non-Linearities

The Integral Non-Linearities (INL) and Differential Non-Linearities (DNL) specifications are adjusted between DS1198A and DS1198B. These changes concern the DNL, DNLrms and INL. See corresponding table in “Static characteristics”.

Datasheet Revision	Parameter	Symbol	Value			Unit
			Min	Typ	Max	
1198A	Differential Non Linearity	DNL	-0.95		+3	LSB
	DNL rms	DNLrms		0.55	0.5	LSB
	Integral Non Linearity	INL	-6.5		6.5	LSB
1198B	Differential Non Linearity	DNL	**-0.9**		**+1.5**	LSB
	DNL rms	DNLrms		**0.2**	0.5	LSB
	Integral Non Linearity	INL	**-5**		**+5**	LSB

Gain Flatness

The Gain Flatness specifications are adjusted between DS1198A and DS1198B. These changes concern gain flatness typical values both nominal and extended bandwidth modes. See corresponding table in “Dynamic characteristics”.

Datasheet Revision	Parameter	Value	Unit
		Typ	
1198A	Gain flatness (+/- 0.5dB)		
	• Nominal bandwidth (NBW)	1000	MHz
	• Extended bandwidth (EBW)	1100	MHz
1198B	Gain flatness (+/- 0.5dB)		
	• Nominal bandwidth (NBW)	**900**	MHz
	• Extended bandwidth (EBW)	**1000**	MHz

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