Ordering number : ENN*7929

Preliminary

SANYO Semiconductors
DATA SHEET

Bi-CMOS IC

LV1017 — Passive Decoder for Dolby Surround Systems

Overview

The LV1017 is a passive decoder for Dolby surround systems.

Features

- Original A/D, D/A converter
- Wide dynamic range
- Virtual surround function
- Rear stereo, pseudo-multi-tap function
- Surround trim (Ls, Rs) external input
- Built-in Lch, Rch, Lsch, Rsch output switching function
- Reduced external component count

Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum power supply voltage	V_{CC} max		12	V
Allowable power dissipation	Pd max	Ta ≤ 70°C	450	mW
Operating temperature	Topr		-20 to +70	°C
Storage temperature	Tstg		-40 to +125	°C

Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended operating voltage	V_{CC}		9	V
Allowable operating voltage range 1	V_{CC} range1	When Dolby surround is ON	8 to 10	V
Allowable operating voltage range 2	V_{CC} range2	When Dolby Pro Logic surround is ON	8.5 to 10	V
Dolby level	V_O Dolby		300	mVrms
Input "H" level voltage	V_{IH}		3.5 to 5.5	V
Input "L" level voltage	V_{IL}		0 to 1.0	V

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Electrical Characteristics at Ta = 25°C, V_{CC} = 9V V_{IN} = 300mV = 0dB, h = 1kHz, Dolby passive mode

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current consumption	I_{CCO}	No signal	15	24	36	mA
[LS, RSch]						
Signal handling	SH1S	V_{CC} = 8.5V, DIST < 3%, S-IN	15			dB
	SH2S	V_{CC} = 8V, DIST < 3%, L-R-IN	10			dB
S/N	SNS	CCIR/ARM, Rg = 10k	65	75		dB
Output level variation	VOS		-3	0	+3	dB
Distortion factor	THDS			0.1	0.7	%
[Lch]						
Signal handling	SH1L	V_{CC} = 8.5V, DIST < 3%	15			dB
S/N	SNL	CCIR/ARM, Rg = 10k	80	90		dB
Output level variation	VOL		-2	0	+2	dB
Distortion factor	THDL			0.01	0.05	%
[Rch]						
Signal handling	SH1R	V_{CC} = 8.5V, DIST < 3%	15			dB
S/N	SNR	CCIR/ARM, Rg = 10k	80	90		dB
Output level variation	VOR		-2	0	+2	dB
Distortion factor	THDR			0.01	0.05	%
When s trim is -15dB	STRIM1	When setting -15dB	-16	-15	-14	dB
When s trim is -31dB	STRIM2	When setting -31dB	-33	-31	-29	dB
NR frequency characteristic	Dec1	0dB, 1kHz	-1.5	0	+1.5	dB
	Dec2	-20dB, 1kHz	-24	-22.5	+21	dB
	Dec3	0dB, 5kHz	-1.5	0	+1.5	dB
	Dec4	-20dB, 5kHz	-23.3	-21.8	+20.3	dB
	Dec5	-40dB, 5kHz	-46.8	-45.3	+43.8	dB

Package Dimensions

unit : mm

3107A