

**SANYO****SANYO Semiconductors****DATA SHEET****LA2787** — Monolithic Linear IC  
**Dolby Pro Logic Surround Decoder****Overview**

The LA2787 is a Dolby Pro Logic Surround decoder.

**Functions**

- High-performance matrix.
- Wide dynamic range.
- Low distortion factor.
- Full bypass mode.
- Digital auto balance.
- Digital noise sequencer.
- Center trim external input.
- L+R+C mix output.

**Specifications**

**Maximum Ratings** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum power supply voltage	$V_{CC \text{ max}}$		12	V
Allowable power dissipation	$P_d \text{ max}$	$T_a \leq 70^\circ\text{C}$	900	mW
Operating ambient temperature	$T_{opr}$		-20 to +70	$^\circ\text{C}$
Storage ambient temperature	$T_{stg}$		-40 to +150	$^\circ\text{C}$

**Operating Conditions** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	$V_{CC}$		9	V
Allowable operating voltage range	$V_{CC \text{ range}}$	When Dolby Pro Logic surround is ON	8.5 to 10	V
Dolby level	$V_O \text{ Dolby}$		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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# LA2787

**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $V_I = 1\text{kHz}$

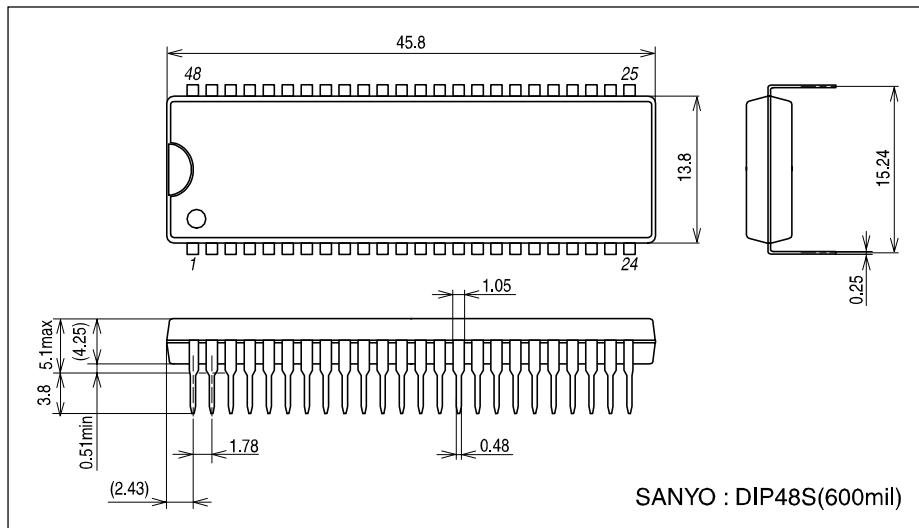
L, Lt = 300mV R, Rt = 300mV C, S, Lt = Rt = 300mV\*0.707 S Lt, Rt Unless reverse phase is specified, it is Pro Logic ON mode (wide mode)

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	$I_{CCO}$	No signal		65	85	mA
Cch output level	VCO		-2	0	+2	dB
Output level variation	VAC	Cch output reference	-0.5	0	+0.5	dB
Lch matrix rejection	RjL	Lch input	25	40		dB
Cch matrix rejection	RjC	Cch input	25	40		dB
Rch matrix rejection	RjR	Rch input	25	40		dB
Sch matrix rejection	RjS	Sch input	25	40		dB
Lch distortion factor	THDL	Lch output		0.03	0.09	%
Cch distortion factor	THDC	Cch output		0.03	0.09	%
Rch distortion factor	THDR	Rch output		0.03	0.09	%
Sch distortion factor	THDS	Sch output		0.03	0.09	%
Lch S/N	S/N, L	CCIR/ARM, $R_g = 10\text{k}\Omega$	70	79		dB
Cch S/N	S/N, C	CCIR/ARM, $R_g = 10\text{k}\Omega$	70	80		dB
Rch S/N	S/N, R	CCIR/ARM, $R_g = 10\text{k}\Omega$	70	79		dB
Sch S/N	S/N, S	CCIR/ARM, $R_g = 10\text{k}\Omega$	67	77		dB
Lch signal handling	SH, L	$V_{CC} = 8.5\text{V}$ , THD = 1%	15	16		dB
Cch signal handling	SH, C	$V_{CC} = 8.5\text{V}$ , THD = 1%	15	19		dB
Rch signal handling	SH, R	$V_{CC} = 8.5\text{V}$ , THD = 1%	15	16		dB
Sch signal handling	SH, S	$V_{CC} = 8.5\text{V}$ , THD = 1%	15	18		dB
Noise sequencer output level	Vns	Each channel output	50	70	90	mV
Lch/Rch distortion factor when Pro Logic is OFF	THD off	20 to 20kHz B.P.F		0.01	0.03	%
Lch/Rch S/N when Pro Logic is OFF	S/N off	CCIR/ARM, $R_g = 10\text{k}\Omega$	75	92		dB
When C trim is -15dB	CTRIM1	When setting -15dB	-16	-15	-14	dB
When C trim is -31dB	CTRIM2	When setting -31dB	-32	-31	-30	dB

## Package Dimensions

unit : mm

3149A



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