Ordering number : ENA0317

SANYO Semiconductors
DATA SHEET

Monolithic Linear IC

LA4224 — Audio Output for TV application 1W Monaural Power Amplifier

Overview

LA4224 is a 1W monaural power amplifier intended for television audio output.
This IC requires only two external components (capacitors) to construct amplifiers and is ideal for realizing substantial cost reduction of electronic devices.

Functions

- 1W monaural power amplifier (V_{CC} = 9V, R_L = 8Ω).
- Built-in Mute transistor.

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max	No signal	15	V
Collector-to-emitter voltage	V_{CEO}	Voltage between ③pin-⑥pin of mute transistor	15	V
Emitter-to-collector voltage	V_{ECO}	Voltage between ⑥pin-③pin of mute transistor	2	V
Operating temperature	Topr		-25 to +75	°C
Storage temperature	Tstg		-40 to +150	°C

Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	unit
Recommended supply voltage	V_{CC}		9	V
Recommended load resistance	R_L		8	Ω
Allowable operating voltage range	V_{CC} op	Not exceeding the package Pd.	5 to 15	V

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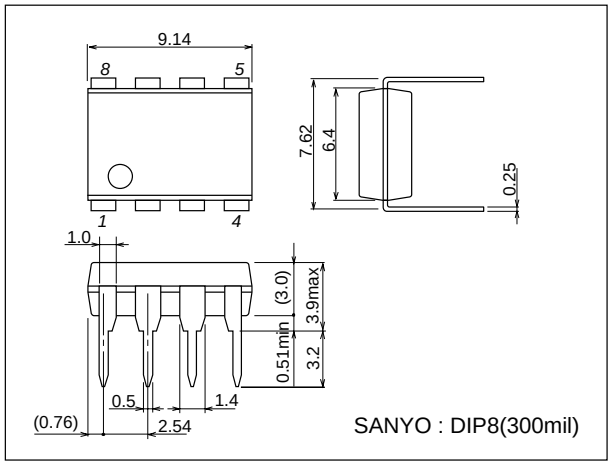
Electrical Characteristics at Ta = 25°C, V_{CC} = 9V, R_L = 8Ω, f = 1kHz, Rg = 600Ω, Designated substrate and circuit

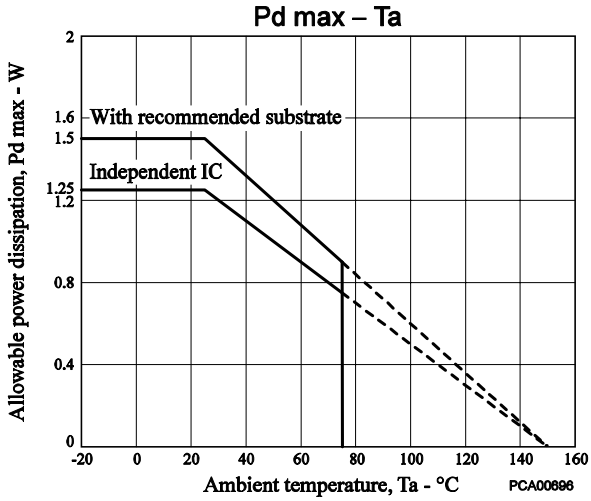
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	Rg = 0		10	20	mA
Voltage gain	VG	V_O = 0dBm	32	34	36	dB
Output power	P_O	THD = 10%	0.7	1.0		W
Total harmonic distortion	THD	P_O = 0.1W		0.1	0.5	%
Output noise voltage	V_{NO}	Rg = 0, DIN AUDIO		0.06	0.3	mV
Ripple rejection	SVRR	Rg = 0, f_R = 100Hz, V_{CC}R = 0dBm, DIN AUDIO	35	43		dB
Input resistance	R_i		24	30	36	kΩ
Mute transistor emitter-to-collector saturation voltage	V_{CE} (sat)	I_C = 1mA, I_B = 100μA, hfe = 10		0.01	0.04	V

Package Dimensions

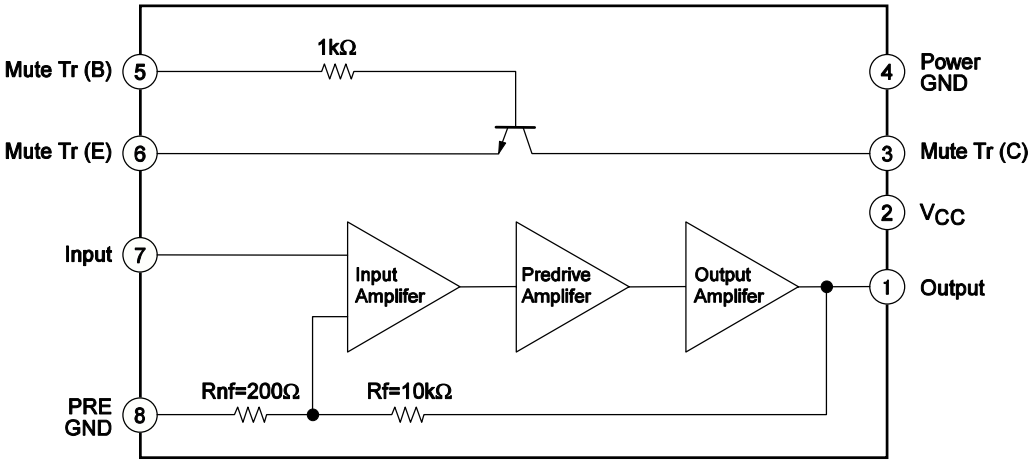
unit : mm

3001C





Block Diagram



Application Circuit Example