



SANYO Semiconductors
DATA SHEET

LA4224 — **Monolithic Linear IC**
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 ($V_{CC} = 9V, R_L = 8\Omega$).
- Built-in Mute transistor.

Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$	No signal	15	V
Collector-to-emitter voltage	V_{CEO}	Voltage between @pin-@pin of mute transistor	15	V
Emitter-to-collector voltage	V_{ECO}	Voltage between @pin-@pin of mute transistor	2	V
Operating temperature	T_{opr}		-25 to +75	$^\circ C$
Storage temperature	T_{stg}		-40 to +150	$^\circ C$

Operating Conditions at $T_a=25^\circ C$

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 P_d .	5 to 15	V

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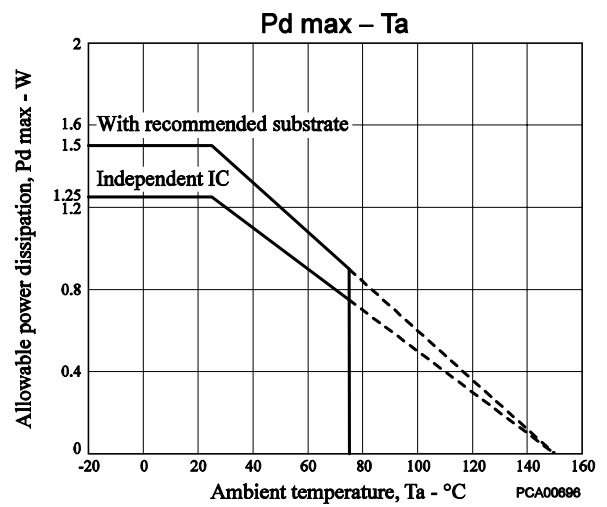
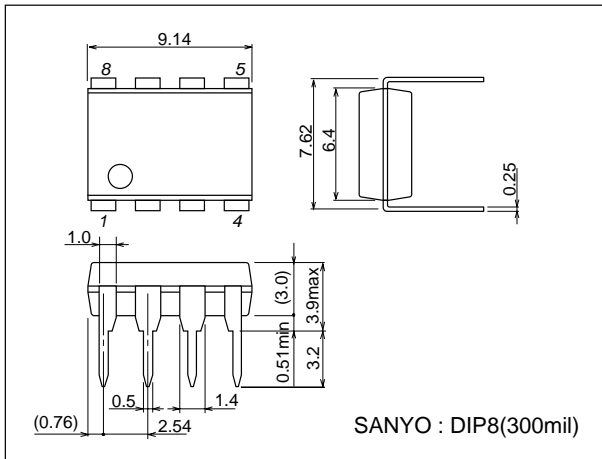
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $R_L = 8\Omega$, $f = 1\text{kHz}$, $R_g = 600\Omega$, Designated substrate and circuit

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

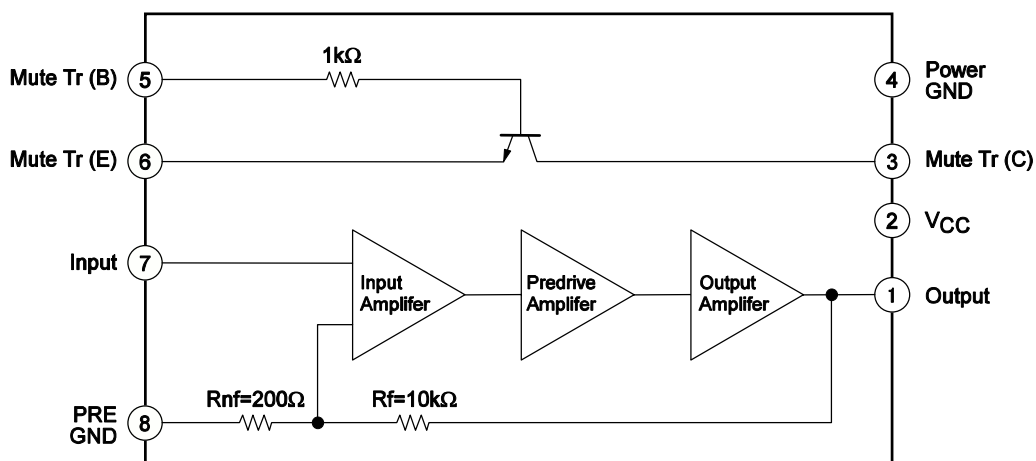
Package Dimensions

unit : mm

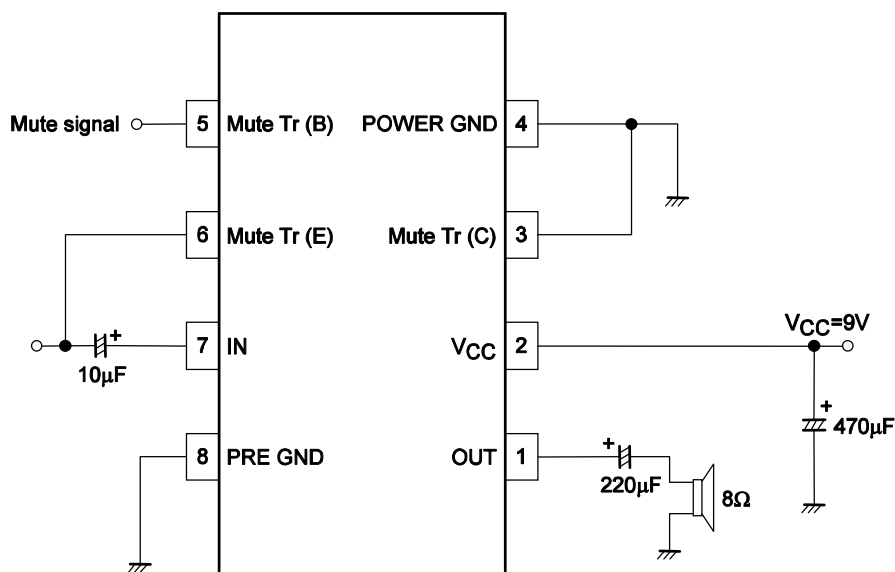
3001C



Block Diagram



Application Circuit Example



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