



SANYO Semiconductors

DATA SHEET

LA4225

Monolithic Linear IC
Audio Output for TV application
5W Monaural Power Amplifier

Overview

LA4225 is a 5W 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

- 5W monaural power amplifier ($V_{CC} = 18V$, $R_L = 8\Omega$)
- Full complement of protection circuits
 - Thermal shutdown protector on chip
 - Short between an output and DC protection circuit
- On-chip pop noise reduction circuit

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$	$R_g = 0$	24	V
Maximum output current	$I_{O \text{ peak}}$		3.3	A
Allowable power dissipation	$P_d \text{ max}$	Arbitrarily large heat sink	7.5	W
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}		13.2	V
Recommended load resistance	R_L		4	Ω
Allowable operating voltage range	$V_{CC \text{ op}}$	Not exceeding the package P_d .	5 to 22	V
Recommended load resistance range	$R_L \text{ op}$		4 to 8	Ω

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LA4225

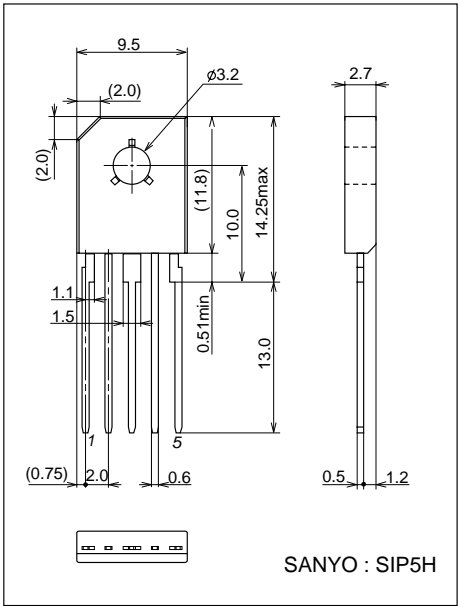
Electrical Characteristics at Ta = 25°C, VCC = 13.2V, RL = 4Ω, f = 1kHz, Rg = 600Ω, Designated substrate and circuit

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	ICCO	Rg = 0		65	130	mA
Voltage gain	VG	VO = 0dBm	43	45	47	dB
Output power	PO1	VCC = 13.2V, RL = 4Ω, THD = 10%	4	5		W
	PO2	VCC = 18V, RL = 8Ω, THD = 10%		5		W
Total harmonic distortion	THD	PO = 1W		0.1	1.0	%
Output noise voltage	VNO	Rg = 0, DIN AUDIO		0.15	0.5	mV
Ripple rejection	SVRR1	Rg = 0, fR = 100Hz, Vr = 0dBm, DIN AUDIO	30	40		dB
	SVRR2	Rg = 0, fR = 1kHz, Vr = 0dBm, DIN AUDIO		47		dB
Input resistance	Ri			50		kΩ

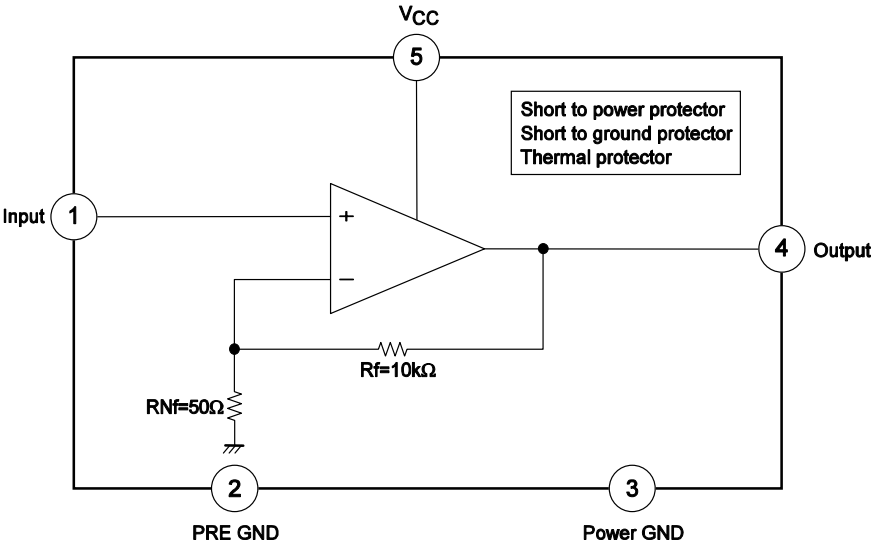
Package Dimensions

unit : mm

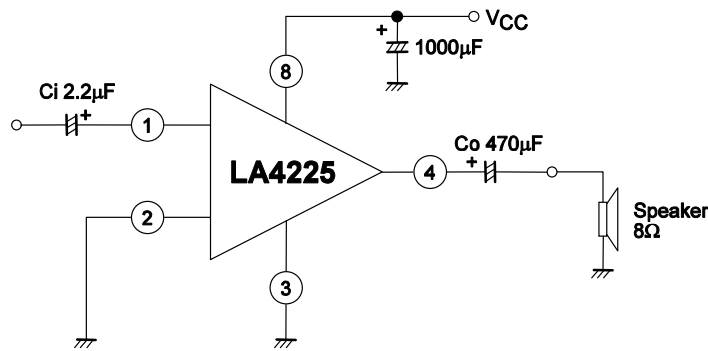
3031C



Block Diagram



Application Circuit Example



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