



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	$V_{CC\ max}$	$R_g = 0$	24	V
Maximum output current	$I_{O\ peak}$		3.3	A
Allowable power dissipation	$P_d\ max$	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	$V_{CC\ op}$	Not exceeding the package P_d .	5 to 22	V
Recommended load resistance range	$R_L\ op$		4 to 8	Ω

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

LA4225

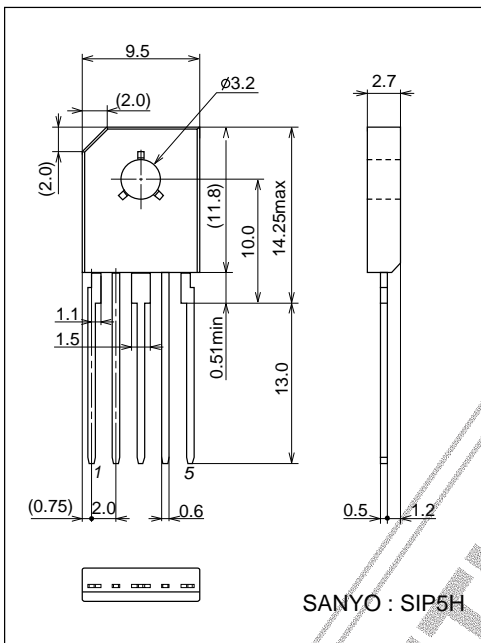
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 13.2\text{V}$, $R_L = 4\Omega$, $f = 1\text{kHz}$, $R_g = 600\Omega$, Designated substrate and circuit

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$R_g = 0$		65	130	mA
Voltage gain	VG	$V_O = 0\text{dBm}$	43	45	47	dB
Output power	P_{O1}	$V_{CC} = 13.2\text{V}$, $R_L = 4\Omega$, THD = 10%	4	5		W
	P_{O2}	$V_{CC} = 18\text{V}$, $R_L = 8\Omega$, THD = 10%		5		W
Total harmonic distortion	THD	$P_O = 1\text{W}$		0.1	1.0	%
Output noise voltage	V_{NO}	$R_g = 0$, DIN AUDIO		0.15	0.5	mV
Ripple rejection	SVRR1	$R_g = 0$, $f_R = 100\text{Hz}$, $V_r = 0\text{dBm}$, DIN AUDIO	30	40		dB
	SVRR2	$R_g = 0$, $f_R = 1\text{kHz}$, $V_r = 0\text{dBm}$, DIN AUDIO		47		dB
Input resistance	R_i			50		$k\Omega$

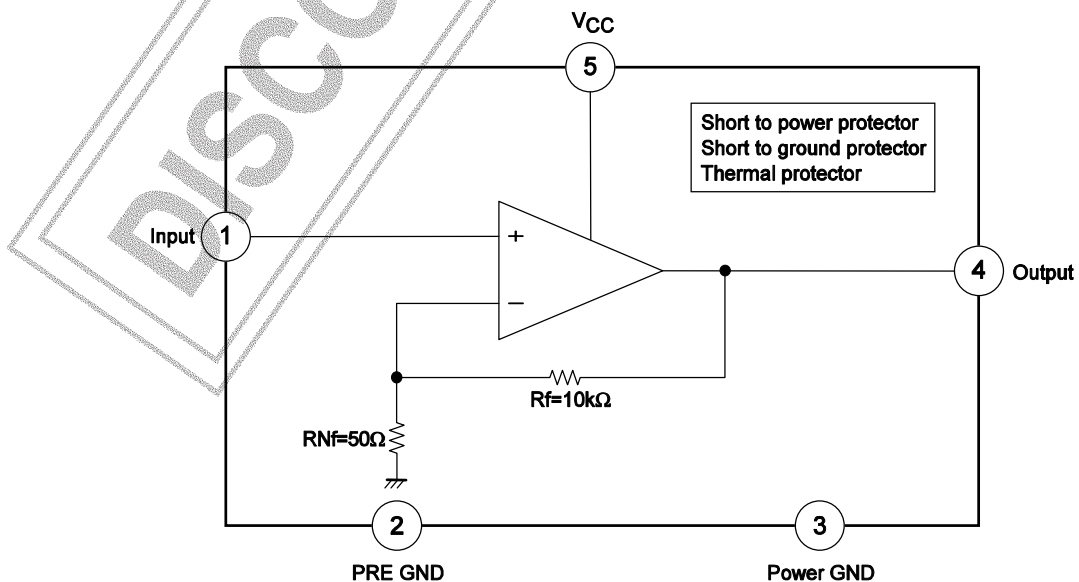
Package Dimensions

unit : mm

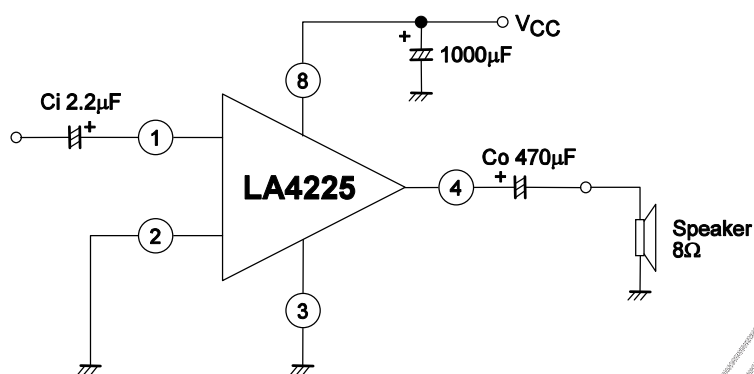
3031C



Block Diagram



Application Circuit Example



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