Ordering number : ENA0318

SANYO Semiconductors

DATA SHEET

Monolithic Linear IC

LA4225 — 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 = 8Ω)
- 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 Ta = 25°C

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

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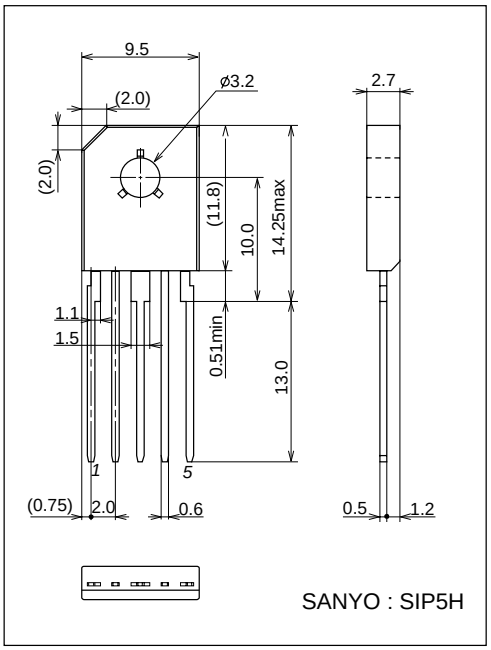
Electrical Characteristics at Ta = 25°C, V_{CC} = 13.2V, R_L = 4Ω, f = 1kHz, Rg = 600Ω, Designated substrate and circuit

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	Rg = 0		65	130	mA
Voltage gain	VG	V_O = 0dBm	43	45	47	dB
Output power	P_O1	V_{CC} = 13.2V, R_L = 4Ω, THD = 10%	4	5		W
	P_O2	V_{CC} = 18V, R_L = 8Ω, THD = 10%		5		W
Total harmonic distortion	THD	P_O = 1W		0.1	1.0	%
Output noise voltage	V_{NO}	Rg = 0, DIN AUDIO		0.15	0.5	mV
Ripple rejection	SVRR1	Rg = 0, f_R = 100Hz, V_r = 0dBm, DIN AUDIO	30	40		dB
	SVRR2	Rg = 0, f_R = 1kHz, V_r = 0dBm, DIN AUDIO		47		dB
Input resistance	R_i			50		kΩ

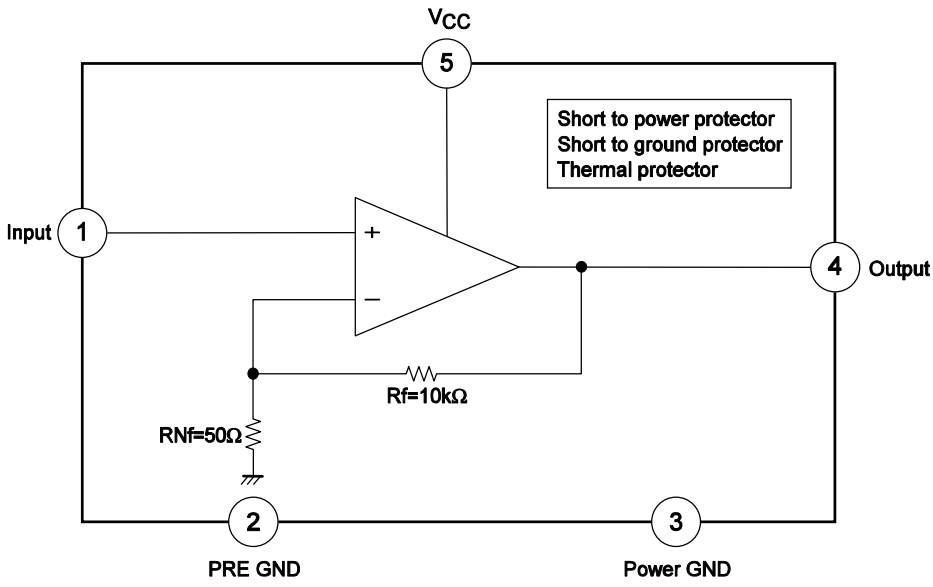
Package Dimensions

unit : mm

3031C



Block Diagram



Application Circuit Example