



# 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	$\Omega$
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	$\Omega$

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**SANYO Semiconductor Co., Ltd.**

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# LA4225

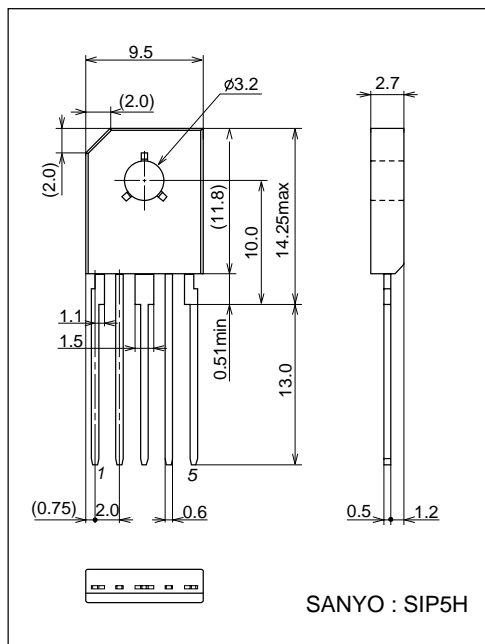
**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 13.2\text{V}$ ,  $R_L = 4\Omega$ ,  $f = 1\text{kHz}$ ,  $R_g = 600\Omega$ , Designated substrate and circuit

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	$R_g = 0$ , $f_R = 100\text{Hz}$ , $V_f = 0\text{dBm}$ , DIN AUDIO	30	40		dB
	SVRR2	$R_g = 0$ , $f_R = 1\text{kHz}$ , $V_f = 0\text{dBm}$ , DIN AUDIO		47		dB
Input resistance	$R_i$			50		$k\Omega$

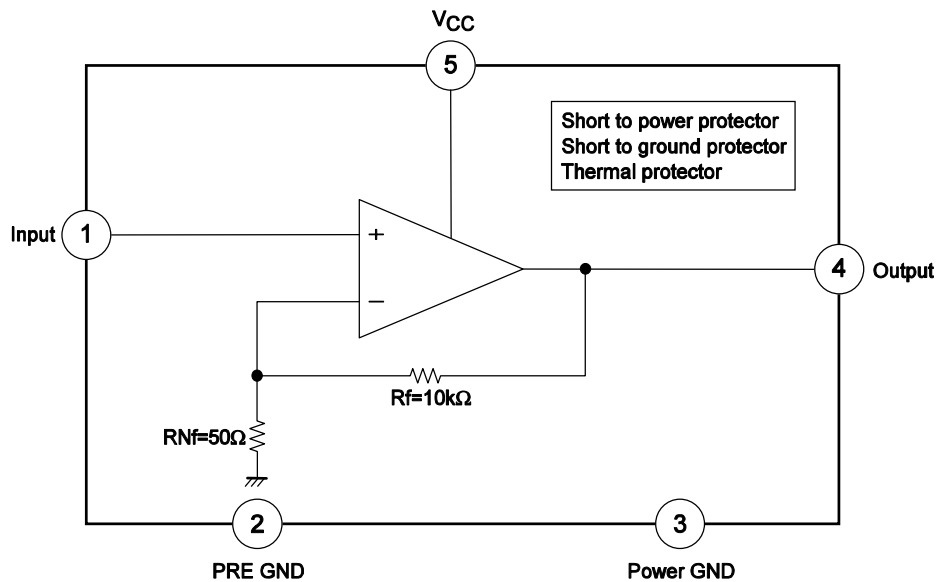
## Package Dimensions

unit : mm

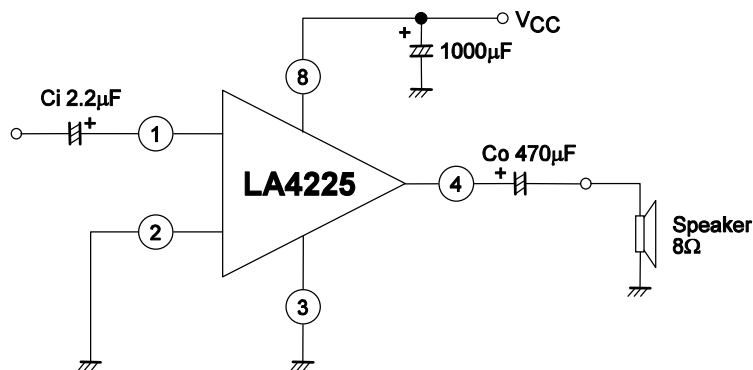
3031C



## Block Diagram



## Application Circuit Example



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