



# SANYO Semiconductors

## DATA SHEET

# LA4227

Monolithic Linear IC

## Audio Output for Radio Cassette Recorders

### 3W × 2ch Power Amplifier

### Overview

LA4227 is a 3W 2-channel power amplifier.

This IC requires few external components and is ideal for power amplifier used for radio cassette players/recorders.

### Functions

- 3W × 2 channel ( $V_{CC} = 9V$ ,  $R_L = 3\Omega$ )
- Standby switch on chip
- Thermal shutdown protector on chip

### Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$	$R_g = 0$ (No signal)	20	V
Allowable power dissipation	$P_d\text{ max}$	Arbitrarily large heat sink	4.0	W
Operating temperature	$T_{opr}$		-20 to +75	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

### Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	unit
Recommended supply voltage	$V_{CC}$		9	V
Operating voltage range	$V_{CC\text{ op}}$	Not exceeding the maximum ratings	4.2 to 18	V
Operating load resistance range	$R_L\text{ op}$		3 to 8	$\Omega$
		Bridge	8	$\Omega$

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# LA4227

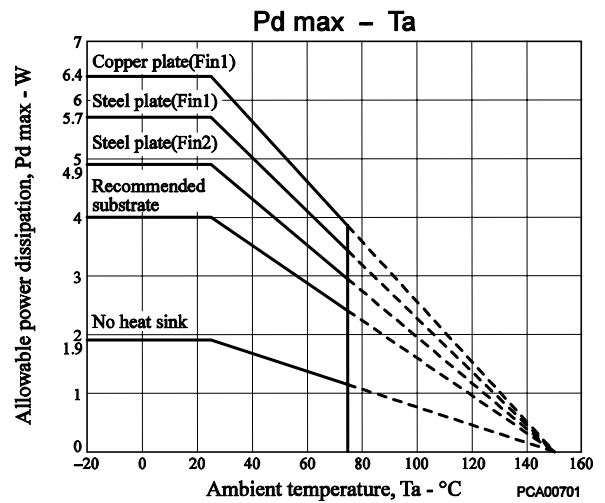
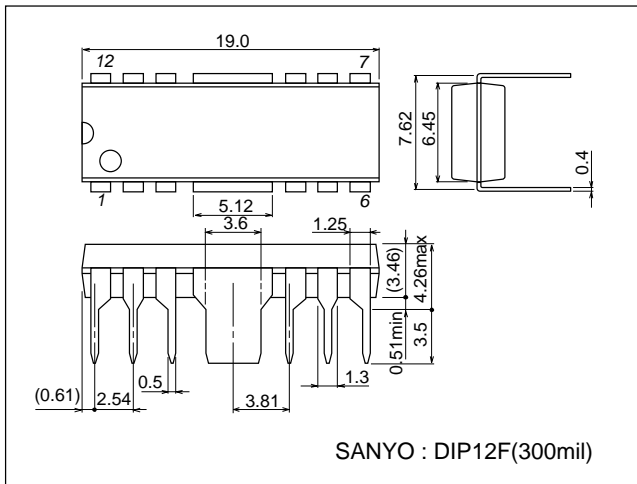
**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $R_L = 4\Omega$ ,  $f = 1\text{kHz}$ ,  $R_g = 600\Omega$ ,  $R_{NF} = 43\Omega$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$	$R_g = 0$	10	20	40	mA
Voltage gain	VG	$V_O = 0\text{dBm}$	43.0	45.0	47.0	dB
Voltage gain difference	$\Delta\text{VG}$				2.0	dB
Total harmonic distortion	THD	$P_O = 0.25\text{W}$ ( $V_O = 1\text{V}$ )		0.2	1.0	%
Output power	$P_{O1}$	THD = 10%	2.0	2.5		W
	$P_{O2}$	$R_L = 3\Omega$ , THD = 10%		3.0		W
	$P_{O3}$	Bridge, $R_L = 8\Omega$ , THD = 10%		(4.7)		W
Output noise voltage	$V_{NO1}$	$R_g = 0$ , DIN AUDIO		0.3	1.0	mV
	$V_{NO2}$	$R_g = 10\text{k}\Omega$ , DIN AUDIO		0.4	2.0	mV
Channel separation	Chsep	$V_O = 0\text{dBm}$ , $R_g = 10\text{k}\Omega$	45	55		dB
Ripple rejection	SVRR	$V_r = 150\text{mV}$ , $R_g = 0$ , $f_r = 100\text{Hz}$ , DIN AUDIO	40	52		dB
Standby current	Ist				10	$\mu\text{A}$
Input resistance	$R_i$		21	30		$\text{k}\Omega$

## Package Dimensions

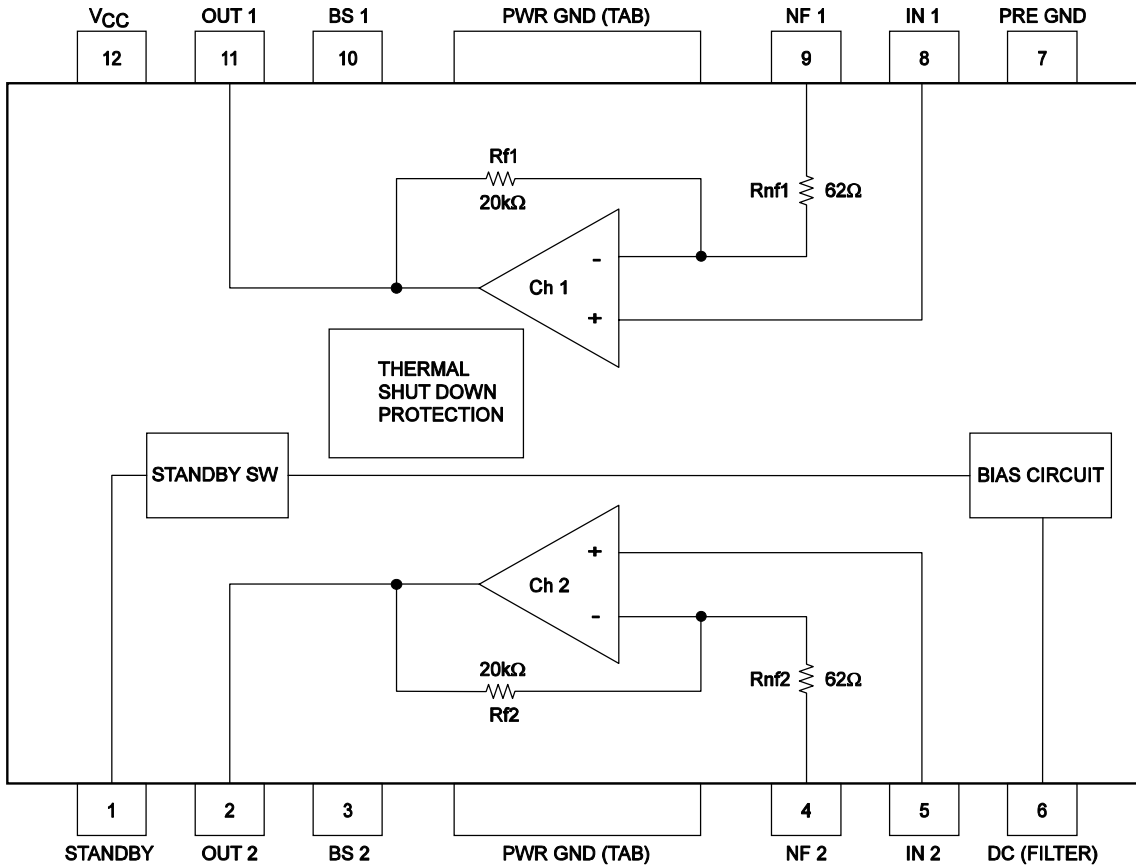
unit : mm

3022B

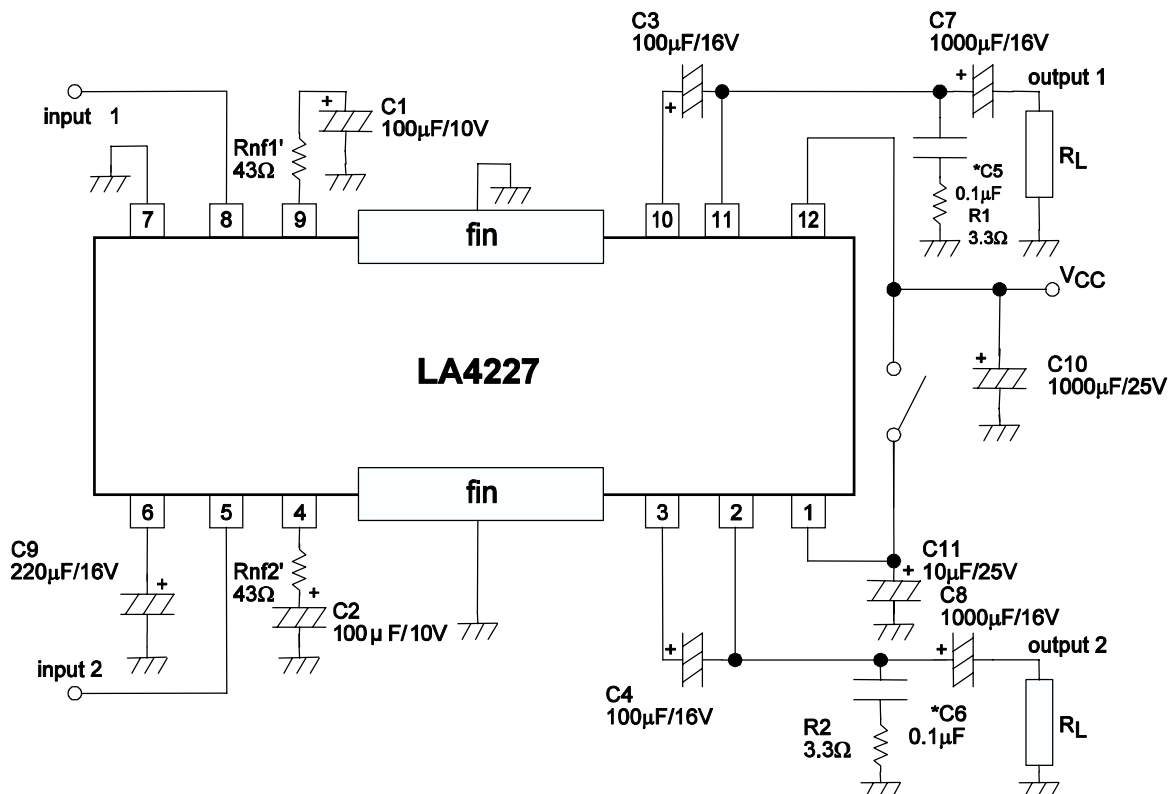


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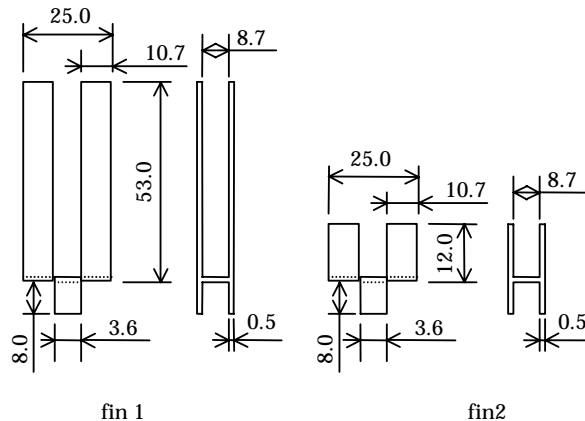
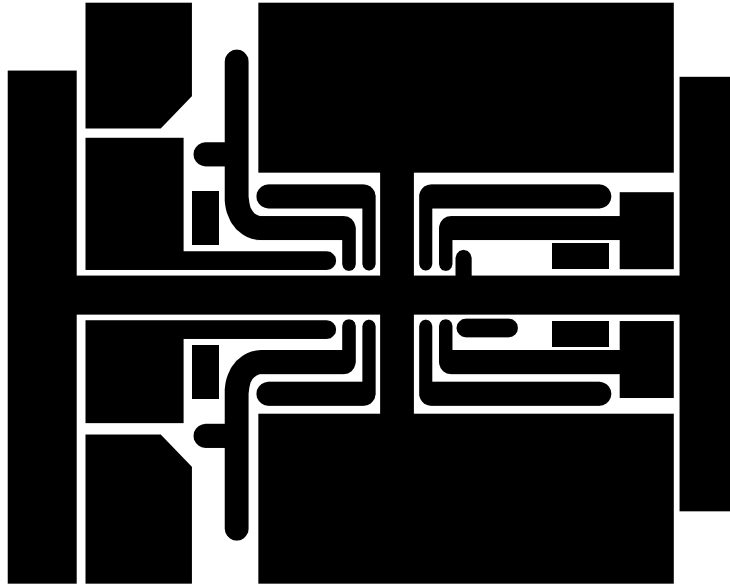
## Block Diagram



## Application Circuit Example



## Recommended board Cu-foiled pattern (Actual size)



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