



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 $T_a = 25^\circ C$

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

Operating Conditions at $T_a = 25^\circ C$

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

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LA4227

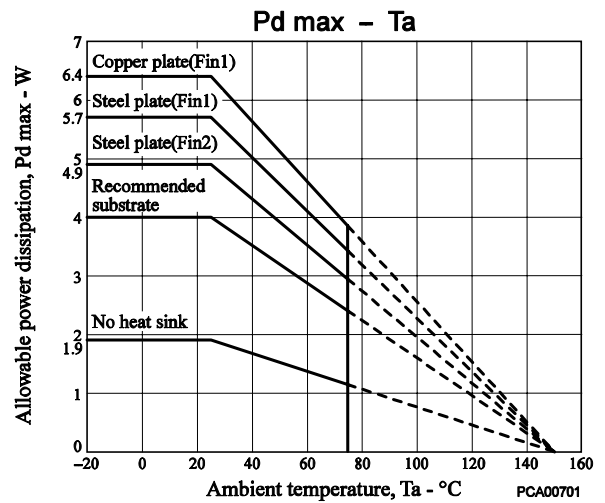
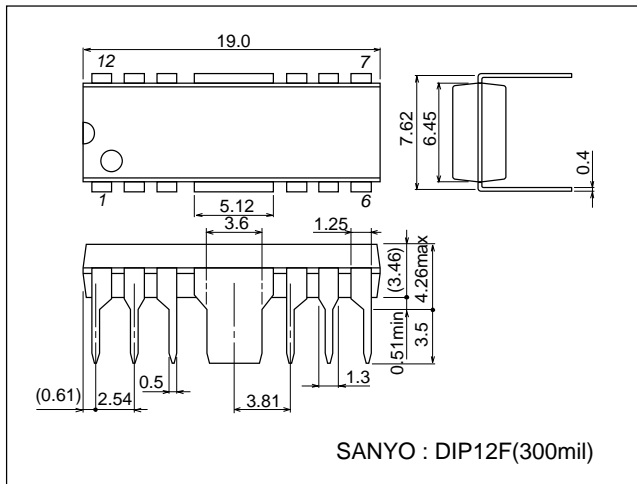
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $R_L = 4\Omega$, $f = 1\text{kHz}$, $R_g = 600\Omega$, $R_{NF} = 43\Omega$

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	ΔVG				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	μA
Input resistance	R_i		21	30		$\text{k}\Omega$

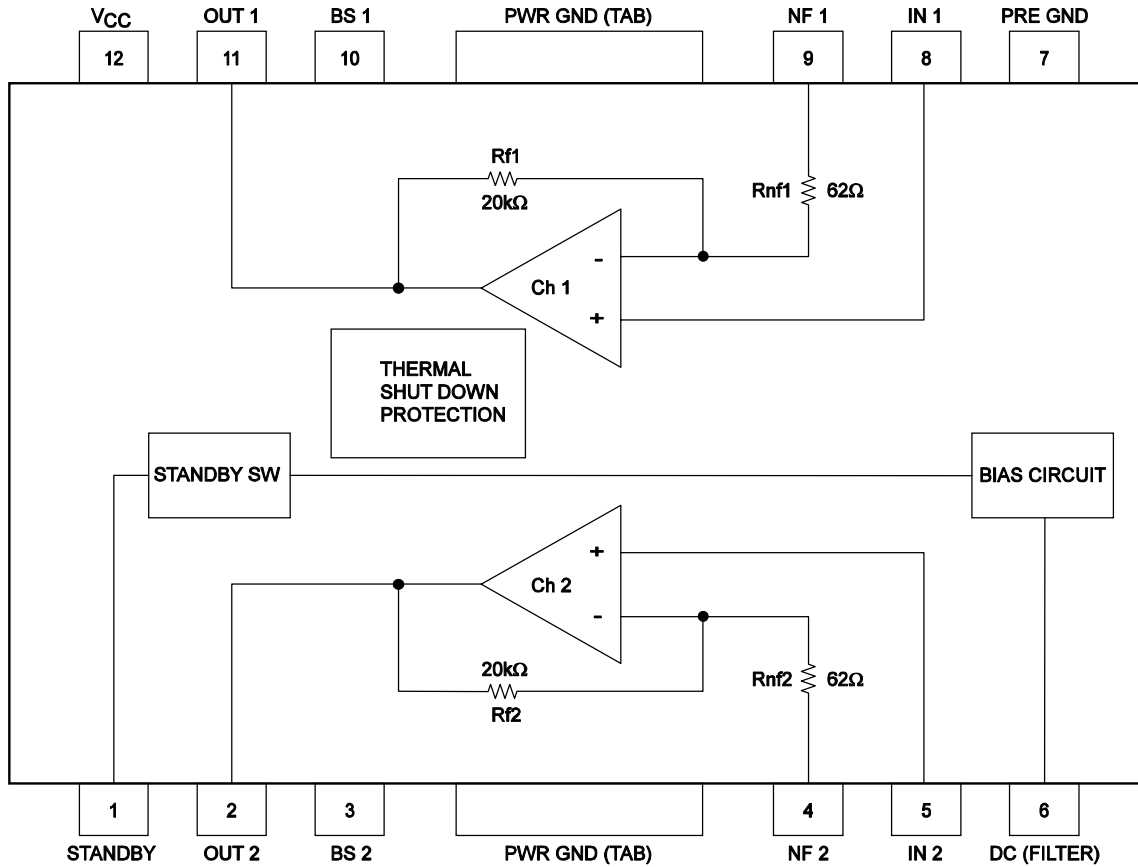
Package Dimensions

unit : mm

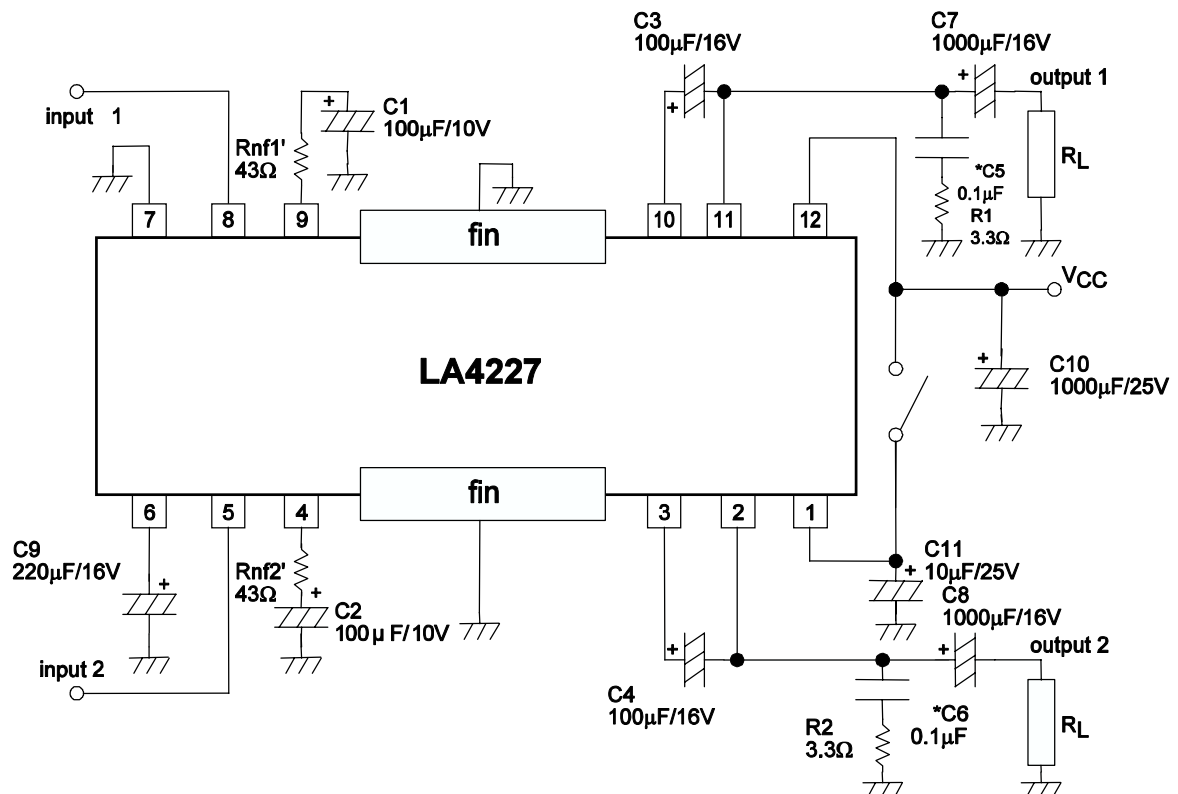
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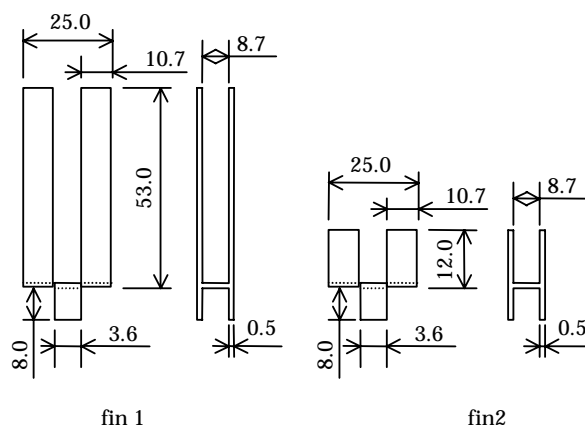
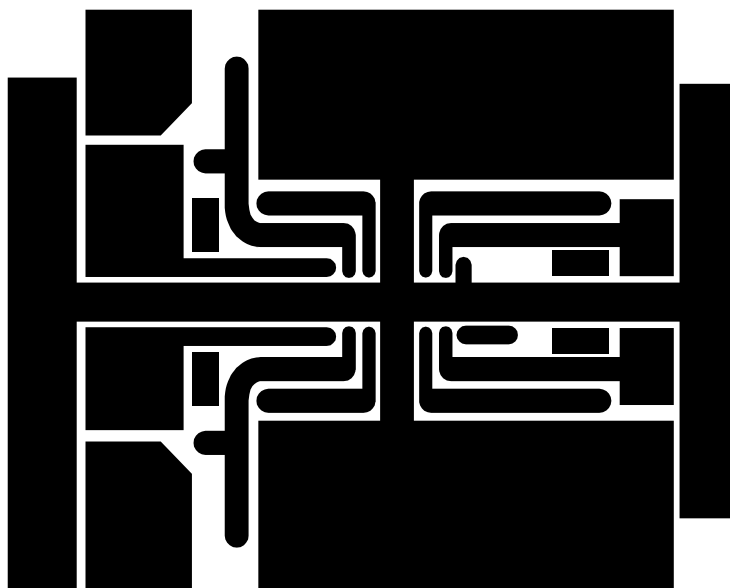
Block Diagram



Application Circuit Example



Recommended board Cu-foiled pattern (Actual size)



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