Ordering number: EN4022C

Monolithic Linear IC

LA4525

Dual AF Power Amplifier for Radio Cassette Recorders

Overview

The LA4525 requires only a small number of external components to drive either two 4 Ω speakers or one 8 Ω speaker. The output power is typically 0.65 W when driving two 4 Ω speakers.

Features

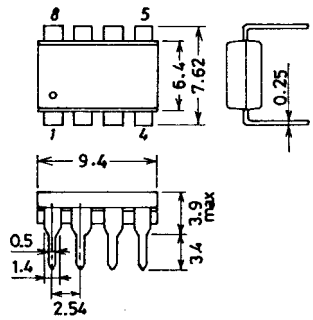
- Two-channel (dual) or single-channel (BTL) operation
- Requires only a few external components.
- 0.65 W (typ) output power into two 4 Ω speakers
- Wide power supply range: 3 to 15 V
- 8-pin DIP (No heat sink needed)

Package Dimensions

unit : mm

3001B-DIP8

[LA4525]



SANYO : DIP8

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max	Rg = 0	15	V
Allowable power dissipation	Pd max	Note	1.5	W
Operating temperature	Topr		–25 to +75	°C
Storage temperature	Tstg		–40 to +150	°C

Note: Mounted on a 50 × 50 × 1.6 mm^3 heat dissipating board

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		6	V
Load resistance range	R_L		4	Ω
Supply voltage range	V_{CC} op	Not in excess of package Pd	3 to 15	V

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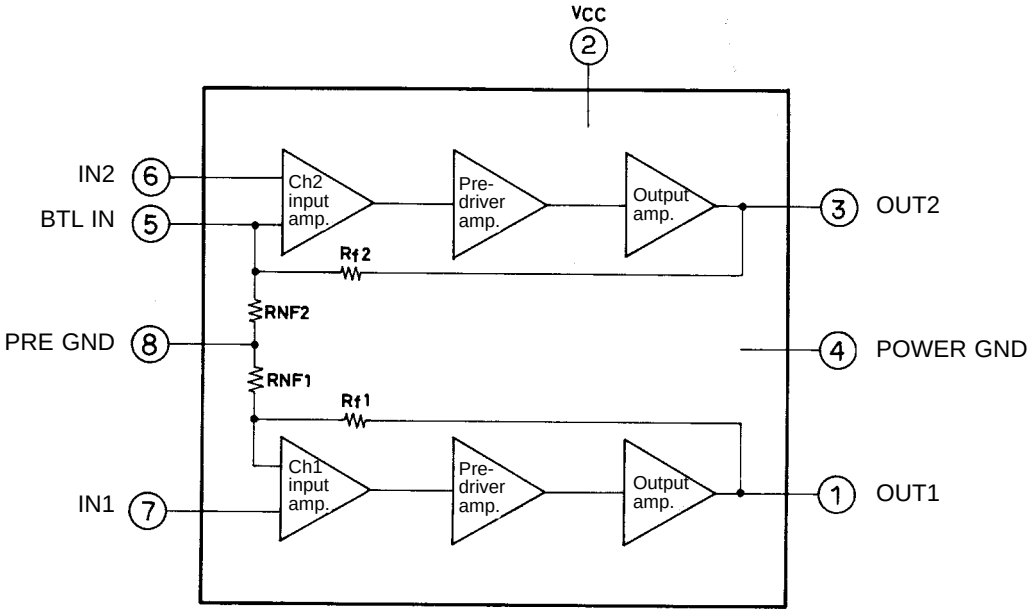
Operating Characteristics at V_{CC} = 6 V, Ta =25°C, R_L = 4 Ω, f = 1 kHz, Rg = 600 Ω, Dual operation unless otherwise noted

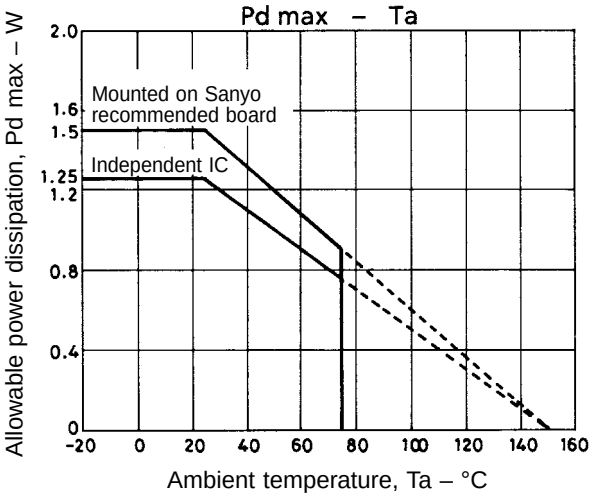
Parameter	Symbol	Condition	min	typ	max	Unit
Quiescent supply current	I_{CCO}	Rg = 0 Ω	10	15	30	mA
Output power	P_O1	THD = 10%	0.45	0.65		W
	P_O2	V_{CC} = 9 V, R_L = 8 Ω, THD = 10%		1.0		W
Voltage gain	VG	V_O = 0 dBm	38	40	42	dB
Total harmonic distortion	THD	P_O = 0.1 W		0.2	0.7	%
Output noise voltage	V_{NO}	Rg = 0 Ω, DIN AUDIO filter		100	400	μV
Supply voltage ripple rejection	SVRR	Rg = 0 Ω, f_R = 100 Hz, V_R = 0 dBm	35	43		dB
Channel separation	CH Sep	V_O = 0 dBm, R_g = 0 Ω	45	55		dB
Input resistance	Ri		70	100	130	kΩ

Equivalent Block Diagram

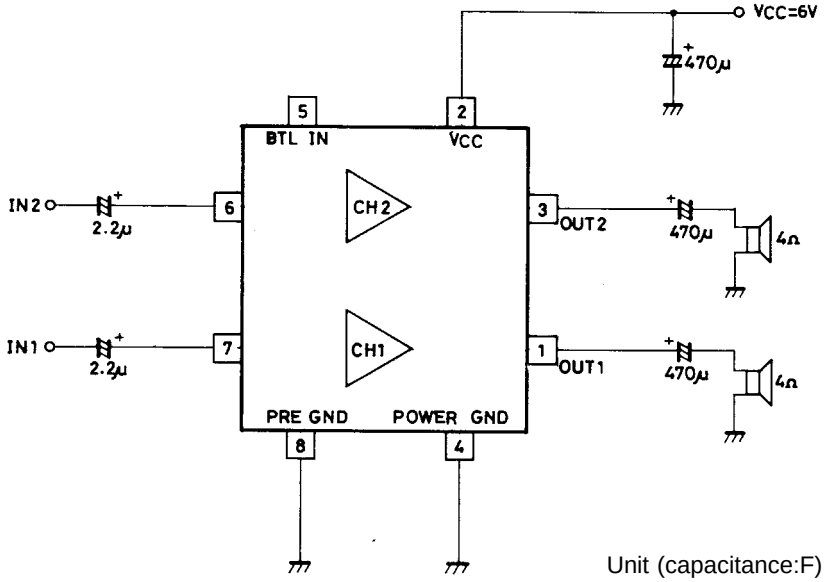


Pin Description

Number	Name	Description
1	OUT1	Channel 1 output
2	V_{CC}	Supply voltage
3	OUT2	Channel 2 output
4	POWER GND	Power amplifier ground
5	BTL IN	Bridge test load input
6	IN2	Channel 2 input
7	IN1	Channel 1 input
8	PRE GND	Preamplifier ground

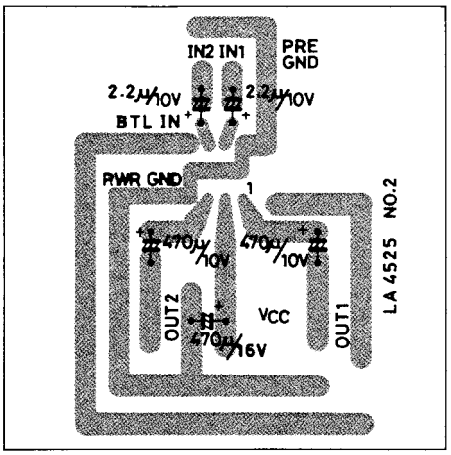


Dual Operation



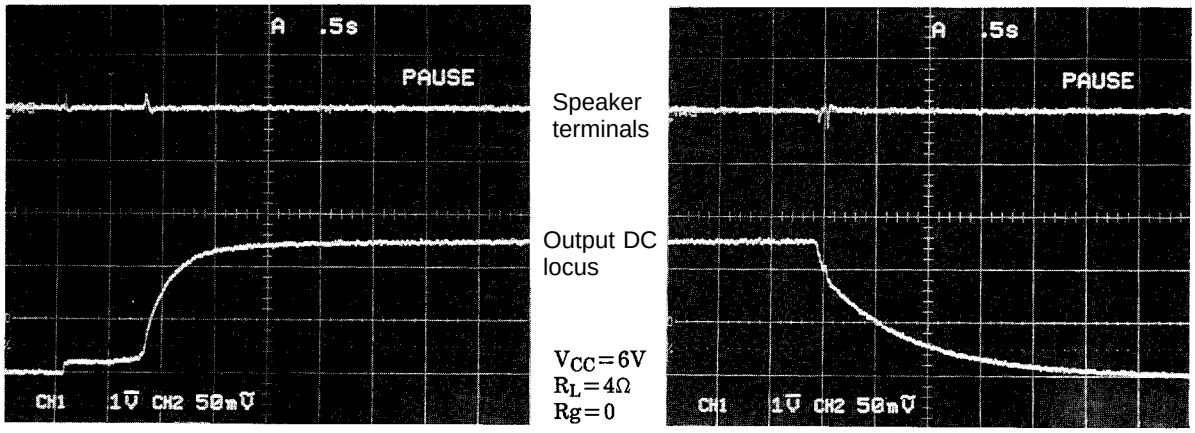
Unit (capacitance:F)

Sample Printed Circuit Pattern

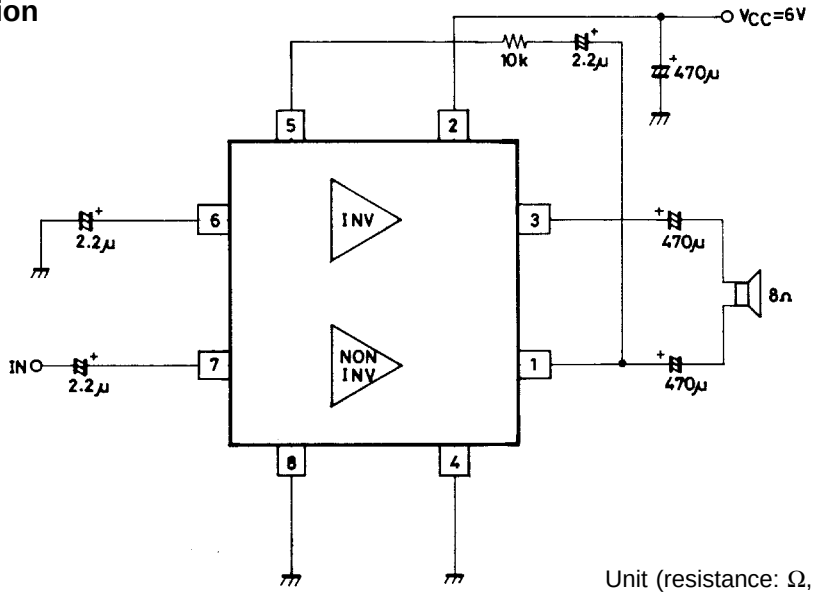


Unit (capacitance:F)
65 × 65mm^2 (Cu-foiled area)

Rising and falling waveforms



BTL Operation



Unit (resistance: Ω, capacitance:F)