

**LA6537**

4-channel Bridge Driver for CD and CD-ROMs

Overview

The LA6537 is a 4-channel bridge (BTL) driver which was developed for compact discs and CD-ROMs.

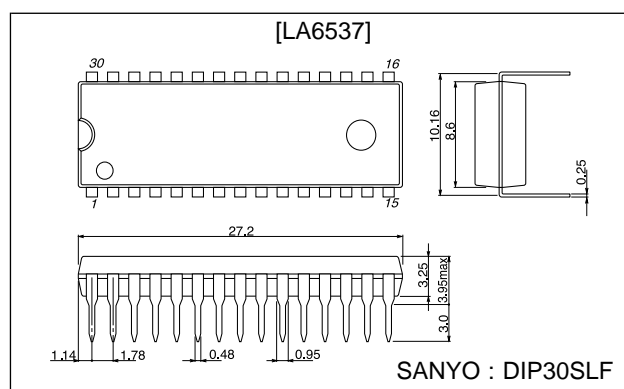
Features and Functions

- 4-channel bridge (BTL) power amplifier.
- I_O max 700 mA.
- With mute circuit (Amp 3, Amp 4).

Package Dimensions

unit : mm

3196-DIP30SLF



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		14	V
Allowable power dissipation	P_d max	* Mounted on PCB shown below	2.5	W
Maximum input voltage	V_{INB}		13	V
Mute pin voltage	V_{MUTE}		13	V
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

* PCB (114.3 × 76.2 × 1.5 mm glass epoxy resin)

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

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		4 to 13	V

LA6537

Electrical Characteristics at $T_a = 25\text{ }^\circ\text{C}$, $V_{CC} = 7.5\text{ V}$

Parameter	Symbol	Conditions	min	typ	max	Unit
No-load current drain	I_{CC1}	Note 1	20	40	60	mA
	I_{CC2}	Note 2		26	60	mA
Output offset voltage	V_{OF1}	Note 3, amplifiers 1 to 2, 7 to 8	-50		+50	mV
	V_{OF2}	Note 3, amplifiers 3 to 4, 5 to 6	-50		+50	mV
Input bias current	I_B			100	500	nA
Buffer input voltage range	V_{BIN}		1.5	$V_{CC} - 1.5$		V
Input voltage range	V_{IN}		1.0	$V_{CC} - 1.5$		V
Output source voltage	V_{O1}	Note 4, $R_L = 8.0\ \Omega$	5.0	5.6		V
Output sink voltage	V_{O2}	Note 5, $R_L = 8.0\ \Omega$		1.8	2.4	V
Closed-circuit voltage gain	VG	Bridge amplifier		12		dB
Slew rate	SR			0.15		V/ μ s
Mute on voltage	V_{MUTE}			2		V
Mute on current	I_{MUTE}			60		μ A

Notes:

1. Mute off and buffer in assume 0.5 V.
2. Mute off and buffer in assume 1/2 V_{CC} V.
3. Represents the interoutput difference.
4. Voltage relative to ground (source) when an 8 Ω load is connected between bridge amplifier outputs.
5. Voltage relative to ground (sink) when an 8 Ω load is connected between bridge amplifier outputs.
Thus, muting is activated when high, and the amplifier outputs 5 and 6 are off.

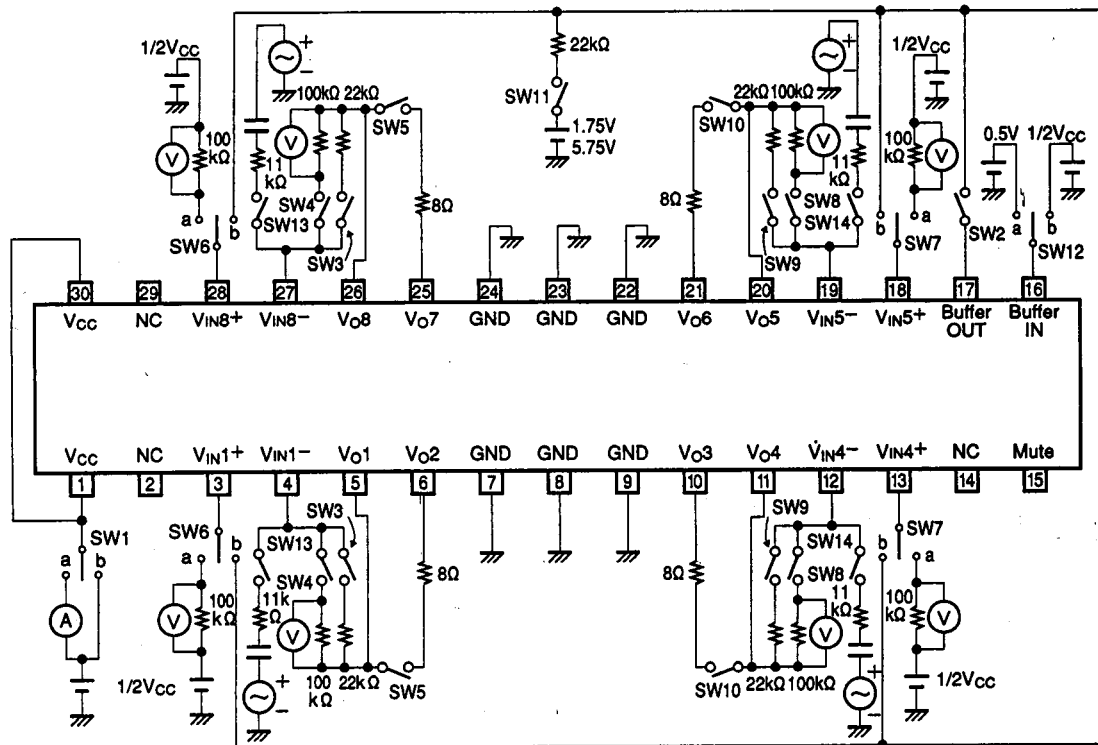
Test Method

SW No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I_{CC1}	a	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	b	OFF	OFF
I_{CC2}	a	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	a	OFF	OFF
$V_{OF1,2}$	b	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	b	OFF	OFF
I_B	b	OFF	OFF	ON	OFF	a	a	ON	OFF	OFF	OFF	b	OFF	OFF
V_{O1}	b	OFF	ON	OFF	ON	b	a	OFF	OFF	OFF	ON	b	OFF	OFF
V_{O2}	b	OFF	OFF	OFF	OFF	a	b	OFF	ON	ON	ON	b	OFF	OFF
V_{MUTE}	b	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	b	OFF	OFF
I_{MUTE}	b	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	b	OFF	OFF
VG	b	ON	ON	OFF	OFF	b	b	OFF	ON	OFF	OFF	b	ON	ON

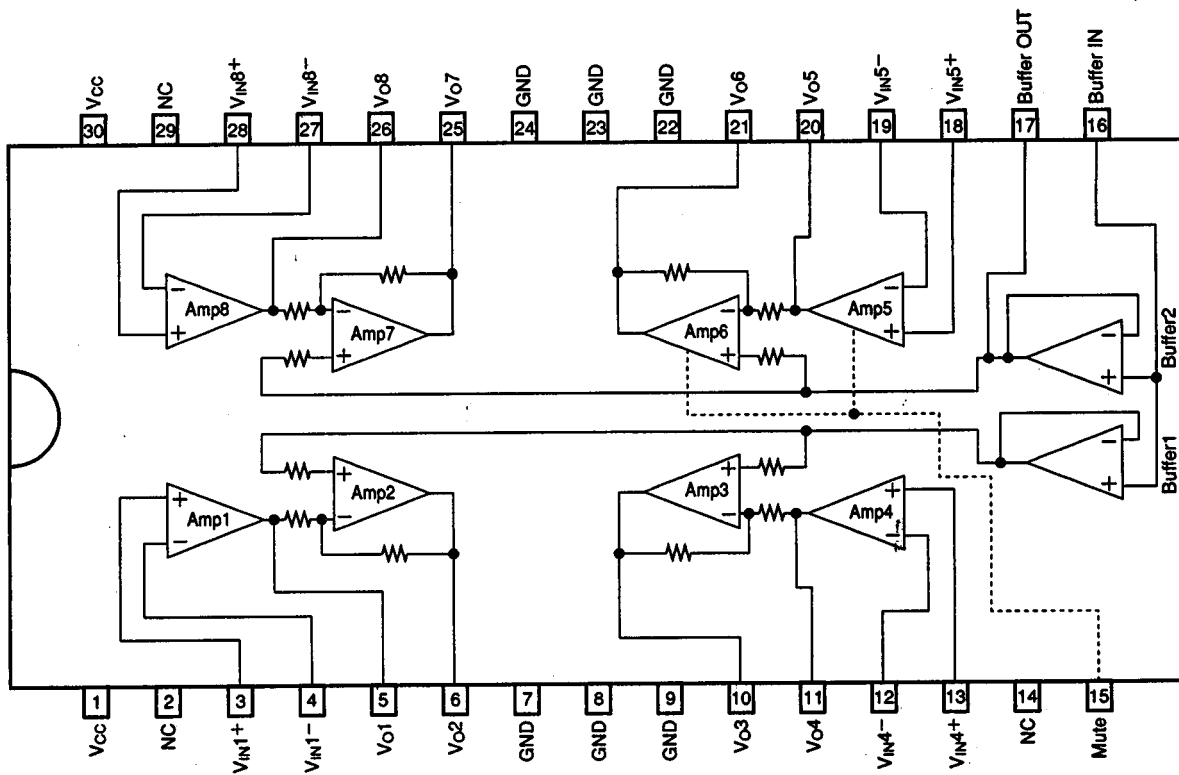
1. For I_{CC1} and 2, measure the inflow current on the V_{CC} pin.
2. For V_{OF1} and 2, measure the voltage between pins 5 and 6 (amplifiers 1 and 2), pins 25 and 26 (amplifiers 7 and 8), pins 10 and 11 (amplifiers 3 and 4), and pins 20 and 21 (amplifiers 5 and 6).
3. For I_B , measure the voltage across the 100 k Ω resistor ($I_B = V/100\text{ k}\Omega$).
4. For V_{O1} and 2, measure each output voltage at input voltages 1.75 V and 5.75 V, respectively.
5. V_{MUTE} is the mute pin (pin 15) voltage when the output goes off.
6. I_{MUTE} is the mute pin (pin 15) inflow current when the output goes off.
7. For VG, measure the voltage between pins 5 and 6 (amplifiers 1 and 2), pins 25 and 26 (amplifiers 7 and 8), pins 10 and 11 (amplifiers 3 and 4), and pins 20 and 21 (amplifiers 5 and 6) at $f = 1\text{ kHz}$, and use the following formula:
 $VG = 20 \log V_O/V_{IN}$ dB.

LA6537

Test Circuit



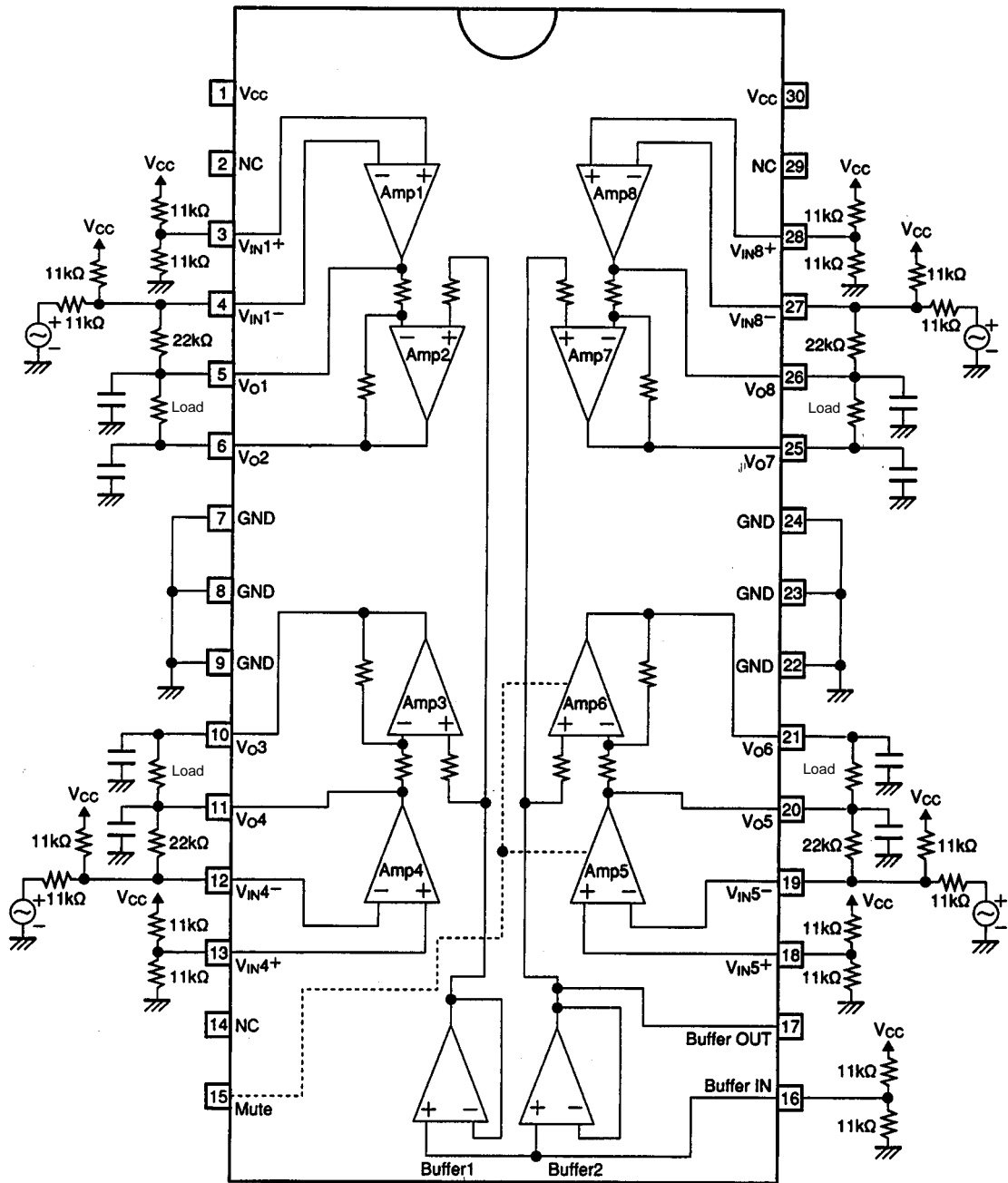
Pin Assignment



Do not use the NC pin.

Top view

Sample Application Circuit



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of January, 1998. Specifications and information herein are subject to change without notice.