



SANYO Semiconductors

# DATA SHEET

## LA6563 — Monolithic Linear IC 4CH Bridge (BTL) Driver for CD

### Overview

The LA6563 is a 4CH bridge (BTL) driver for CD players.

### Features

- Built-in bridge connection (BTL) POWER AMP 4CH
- $I_O$  max 1A
- MUTE circuit (main power is ON/OFF) with 3 systems
- Built-in STBY circuit (all circuits are OFF)
- Provides bias voltage (VREF) switching function (Select external or internal reference voltage. Internal reference voltage is 2.5V: TYP.)
- Output voltage (dynamic range) is high. (6V: TYP)

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	$V_{CC}$ max	$V_{CC} = V_S *1$	14	V
	$V_S$ max	$V_{CC} = V_S *1$	14	V
Allowable power dissipation	$P_d$ max	Independent IC*2	0.8	W
		Specific board (114.3mm × 76.1mm × 1.6mm, glass epoxy resin) *2	2.0	
Maximum input voltage	$V_{INB}$		13	V
Maximum output current	$I_O$ max	Each BTL-AMP of CH1 to CH4	1	A
MUTE pin voltage	$V_{MUTE}$		13	V
Operating temperature	$T_{opr}$		-30 to +85	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

\*1  $V_{CC}$  and  $V_S$  must be shorted externally to use.  $V_{CC}$ : signal system power supply,  $V_S$ : power system supply.

\*2 For information about allowable power dissipation, refer to the reference data of previous models. For more information, it will be described after completing the sample.

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

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	$V_{CC}$	$V_{CC} = V_S$	4 to 13	V

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**SANYO Semiconductor Co., Ltd.**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# LA6563

**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = V_S = 8\text{V}$ ,  $V_{REF} = 1.65\text{V}$ ,  $V_{REF-SW} = 3.3\text{V}$ ,  
 $MUTE1 = MUTE2 = MUTE3 = 3.3\text{V}$ , unless otherwise specified

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[Whole]						
No-load current consumption 1	$I_{CC-ON}$	All AMP output ON, MUTE; HI		30	45	mA
No-load current consumption 2	$I_{CC-OFF}$	All AMP output OFF, MUTE; LOW		5	10	mA
No-load current consumption 3	$I_{CC-OFF-STBY}$	All circuits OFF, STBY: L			1	mA
STBY ON voltage	STBY-ON		2			V
STBY OFF voltage	STBY-OFF				0.5	V
STBY hysteresis voltage	STBY-HYS			80		mV
[Output AMP block]						
Output offset voltage	VOFF	Between (+) and (-) output of each channel	-50		50	mV
Output voltage	$V_O$	$R_L = 0\Omega$ , Voltage between (+) and (-) output of each channel *1		6		V
Closed circuit voltage gain	VG1	*2	5.4	6	6.6	times
Slew rate	SR	For output by AMP alone, it must be doubled *3	0.5			V/ $\mu\text{s}$
MUTE ON voltage	VMUTE-ON	MUTE *4	2			V
MUTE OFF voltage	VMUTE-OFF	MUTE *4			0.5	V
MUTE hysteresis voltage	VMUTE-HYS			80		mV
[Input OP-AMP block]						
Output offset voltage	$V_{IN-OFF}$	For BUFFER	-10		10	mV
Input voltage range	$V_{IN-OP}$		0		$V_{CC-1.5}$	V
Output current (SINK)	$V_{IN-SINK}$			2		mA
Output current (SOURCE)	$V_{IN-SOURCE}$		300	500		$\mu\text{A}$
[OP-AMP block]						
Output offset voltage	OP-VOFF	For BUFFER	-10		10	mV
Input voltage range	OP- $V_{IN}$		0		$V_{CC-1.5}$	V
Output current (SINK)	OP-SINK	SINK current		10		mA
Output current (SOURCE)	OP-SOURCE	SOURCE current		10		mA
[VREF-AMP block]						
VREF-AMP offset voltage	VOFF-VREF	VREF-SW "H" (For external reference voltage selected)	-10		10	mV
Internal VREF voltage	VREF-CONST	VREF-SW "L" (For internal reference voltage selected)	2.3	2.5	2.7	V
VREF input voltage range	1BIN		1		$V_{CC-1.5}$	V
VREF switch voltage 1	VSW1	Select external reference voltage *5	3			V
VREF switch voltage 2	VSW2	Select internal reference voltage *5			1	V

\*1. Voltage for both ends of the load when connecting the  $8\Omega$  load between outputs. Input is H or L.

Output is saturated.

\*2. Input AMP is 0 dB for BUFFER.

\*3. Design guaranteed performance.

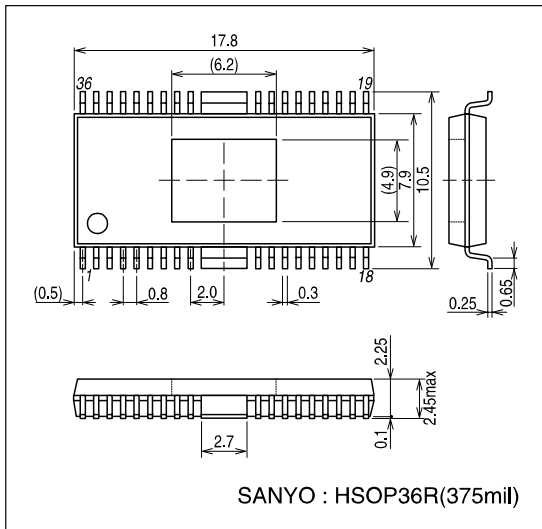
\*4. MUTE is HI for output ON and LOW for output OFF (AMP output is OFF, HI impedance).

Each MUTE activates independently to a corresponding channel.

\*5. VREF-SW is set to "H" for switching to external reference voltage and "L" for switching to internal reference voltage.

## Package Dimensions

unit : mm  
3251



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