Ordering number : ENN*7887

Preliminary

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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	V_{CC} max	V_{CC} = VS *1	14	V
	VS max	V_{CC} = VS *1	14	V
Allowable power dissipation	Pd max	Independent IC*2	0.8	W
		Specific board (114.3mm × 76.1mm × 1.6mm, glass epoxy resin) *2	2.0	
Maximum input voltage	VINB		13	V
Maximum output current	I_O max	Each BTL-AMP of CH1 to CH4	1	A
MUTE pin voltage	VMUTE		13	V
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-55 to +150	°C

*1 V_{CC} and VS must be shorted externally to use. V_{CC}: signal system power supply, VS: 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 Ta = 25°C

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

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

Electrical Characteristics at Ta = 25°C, V_{CC} = VS = 8V, VREF = 1.65V, VREF-SW = 3.3V, MUTE1 = MUTE2 = MUTE3 = 3.3V, 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 = 0Ω, 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/μs
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		μA
[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 8Ω 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