



SANYO Semiconductors DATA SHEET

LA6548 — Monolithic Linear IC 4CH Bridge (BTL) Driver for CD

Overview

The LA6548 is a 4CH bridge (BTL) driver with built-in 3.3VREG and RESET for CD players.

Functions

- Bridge connection (BTL) POWER AMP 4CH.
- Provides MUTE function (Activate for all channels output. When MUTE is H, output is ON.)
- Built-in 3.3VREG (with external PNP transistor)
- Built-in RESET circuit (with external capacitor, RESET output delay time can be set.)

Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V _{CC} max		14	V
Allowable operation	Pd max	*Measurement on the specific board	2.3	W
Maximum input voltage	V _{INB}		13	V
MUTE pin voltage	V _{MUTE}		13	V
Operating ambient temperature	T _{opr}		-20 to +75	°C
Storage ambient temperature	T _{stg}		-55 to +150	°C

*Specific board size: 114.3mm × 76.1mm × 1.6mm, board material: glass epoxy resin.

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Operating voltage	V _{CC}		4 to 13	V
RESET output SOURCE current	I _{ORH}		0 to 200	μA
RESET output SINK current	I _{ORL}		0 to 2	mA

- Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.
- SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

LA6548

Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 6\text{V}$, $V_{REF} = 1.65\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[Whole]						
No-load current consumption 1	I_{CC-ON}	All channels output ON, MUTE; H		20	40	mA
No-load current consumption 2	I_{CC-OFF}	All channels output OFF, MUTE; L		15	35	mA
Output offset voltage	V_{OFF}	Each channel	-50		50	mV
BUFFER input voltage range	V_{BIN}	V_{REF} BUFFER AMP input range	1.5		$V_{CC}-1.5$	V
Output voltage	V_O	$R_L = 8.0\Omega$ *1	2.6	3		V
Closed circuit voltage gain	V_G	Input/Output gain		9		dB
Slew rate	SR			0.15		V/ μs
MUTE ON voltage	V_{MUTE}	*2		1.2		V
[Power supply part] (2SB632K is used)						
Output voltage	V_{OUT1}	$I_O = 200\text{mA}$	3.13	3.3	3.47	V
Line regulation	ΔV_{OLN1}	$4\text{V} \leq V_{CC} \leq 12\text{V}$		40	100	mV
Load regulation	ΔV_{OLD1}	$5\text{mA} \leq I_O \leq 200\text{mA}$		50	150	mV
[Reset part]						
H reset output voltage	V_{ORH}	$I_{ORH} = 200\mu\text{A}$, Pin open Cd	3.08	3.25	3.42	V
L reset output voltage	V_{ORL}	$I_{SRL} = 2\text{mA}$, short circuit between Cd and GND.		100	200	mV
Reset threshold voltage	V_{RT}	*3	2.58	2.75	2.92	V
Reset hysteresis voltage	V_{HYS}	*4	40	80	160	mV
Reset output delay time	TD	$C_d = 0.1\mu\text{F}$		10		ms

*1. Output voltage differences when connecting the 8Ω load between outputs for each channels.

*2. MUTE voltage when output is ON or OFF. When MUTE is H, all outputs are ON. When MUTE is L, all channels are OFF.

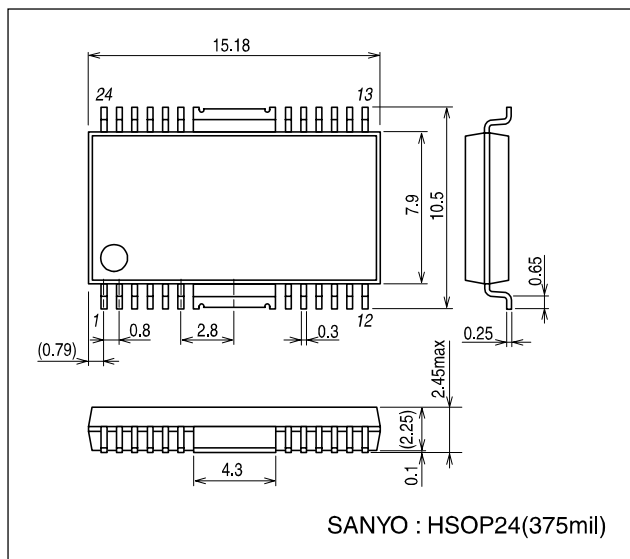
*3. 3.3 VREG voltage when RESET is L.

*4. 3.3 VREG voltage difference between RESET "L" and RESET "H".

Package Dimensions

unit : mm

3227A



- Specifications of any and all SANYO products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- SANYO Electric Co., Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of SANYO Electric Co., Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO product that you intend to use.
- 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 May, 2004. Specifications and information herein are subject to change without notice.