



LA2655V

Clear Sound Control IC Loading "Plus Sound[®]" Algorithm

Overview

The LA2655V is an IC for the sound replay which can be used for the audio equipment such as the radio cassette recorder, the personal computer, the stereo, and the television.

This IC has the function to replay a clear sound.

Features

Provides improved audio quality from one-way speaker systems by incorporating the SANYO algorithm "Plus Sound[®]", which corrects delay and attenuation differences between high and low frequencies due to the characteristics of the speaker.

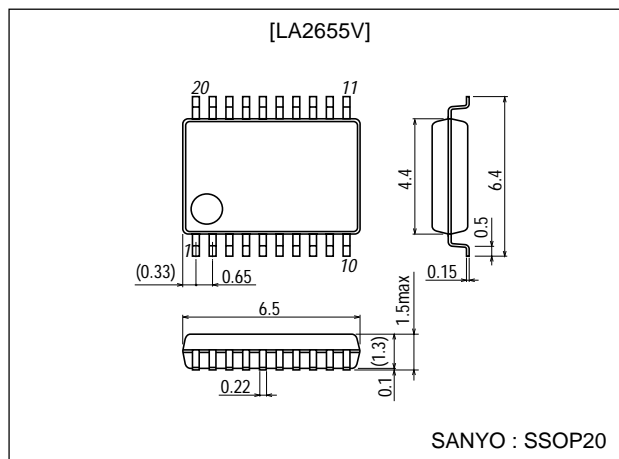
Functions

- "Plus Sound[®]" algorithm provided on chip.
- Clear sound signal processing.
- Variable effect level (with external parts).
- Effect ON/OFF switch.

Package Dimensions

unit:mm

3179B-SSOP20



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		13	V
Allowable power dissipation	Pd max	Ta ≤ 70°C	150	mW
Operating temperature	T _{opr}		-25 to +70	°C
Storage temperature	T _{stg}		-40 to +125	°C

Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V _{CC}		9.0	V
Operating supply voltage range	V _{CC} op		4.5 to 12.0	V
Input high-level voltage	V _{IH}		2.5 to V _{CC}	V
Input low-level voltage	V _{IL}		0 to 1.5	V

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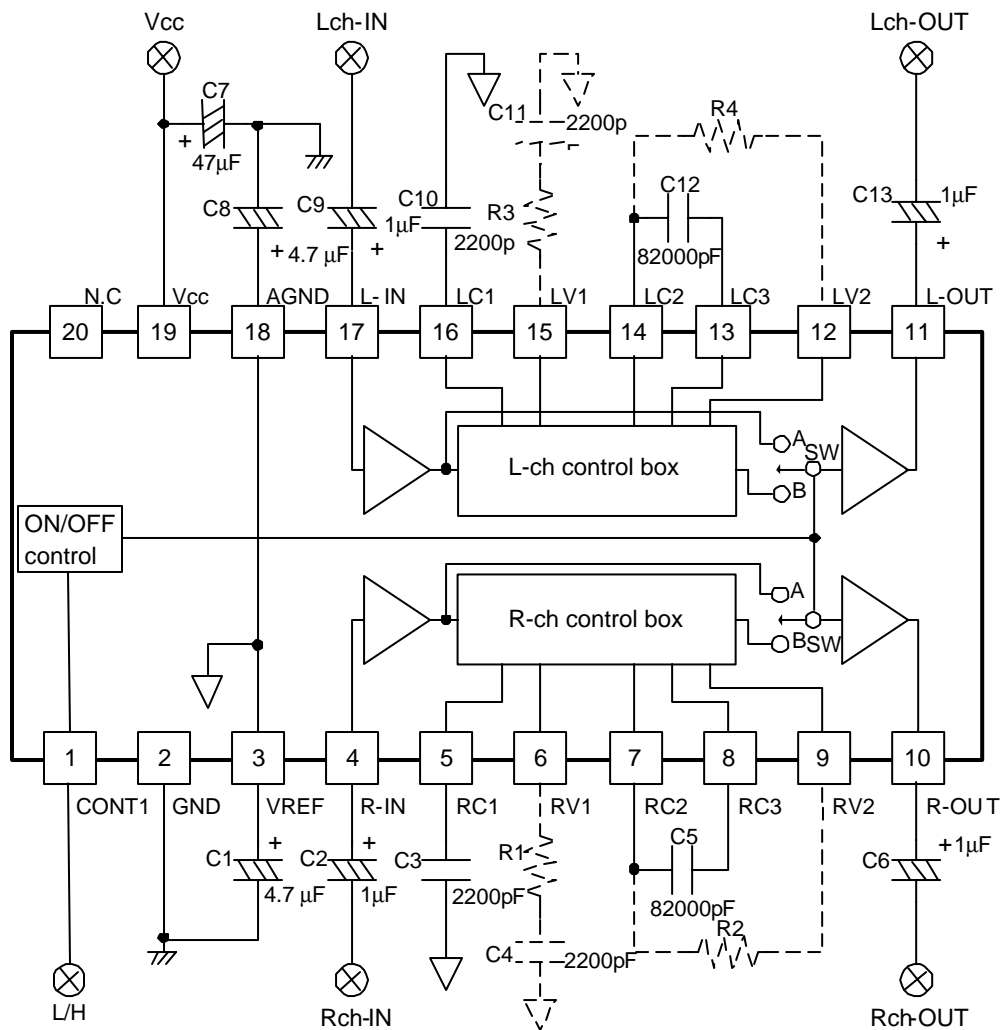
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Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC}=9\text{V}$, $f_m=1\text{kHz}$, $V_{in}=300\text{mV}_{rms}=0\text{dB}$, $R_L=10\text{k}\Omega$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{ccT}	No signal, bypass		5	10	mA
Output level deviation	VG T	Bypass	-2	0	+2	dB
	VG C	ON	-1	+1	+3	dB
Maximum output voltage	$V_{o\ max\ T}$	Bypass	1.5	2		Vrms
	$V_{o\ max\ C}$	ON	1.5	2		Vrms
Total harmonic distortion	THD T	Bypass		0.005	0.03	%
	THD C	ON		0.08	0.5	%
Output noise voltage	$V_{no\ T}$	Bypass		-95		dBm
	$V_{no\ C}$	ON		-85		dBm

Block Diagram



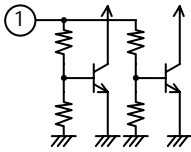
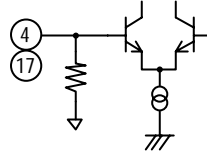
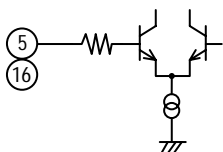
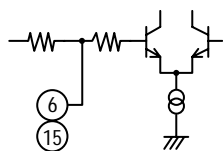
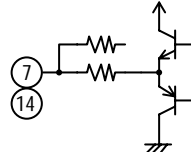
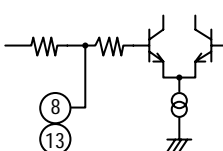
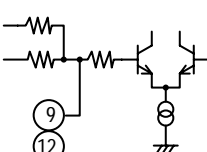
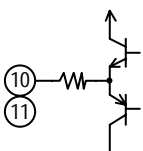
P1	Mode
L	I/O through effect
H	I/O through effect

High level	R1, R3	Remarks
Max	-	
Mid	18k Ω	
Min	11k Ω	

Low level	R2, R4	Remarks
Max	10k Ω	
Mid	24k Ω	
Min	-	

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Pin Function

Pin No.	Pin Name	Pin Voltage	Description	Equivalent circuit
1	CONT1	0/5V		The function switching switch.
4 17	R-IN L-IN	$1/2V_{CC}$		The linear system input terminal.
5 16	RC1 LC1	$1/2V_{CC}$		The terminal which connects the capacitor which sets a phase shift position with the high frequency.
6 15	RV1 LV1	$1/2V_{CC}$		It connects resistance and a capacitor to amplify the high frequency.
7 14	RC2 LC2	$1/2V_{CC}$		The terminal which connects the capacitor which sets a phase shift position with the low frequency.
8 13	RC3 LC3	$1/2V_{CC}$		The terminal which connects the capacitor which sets a phase shift position with the low frequency.
9 12	RV2 LV2	$1/2V_{CC}$		It connects resistance and a capacitor to amplify the low frequency.
10 11	R-OUT L-OUT	$1/2V_{CC}$		The linear system output terminal.

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