Ordering number:ENN6743

Monolithic Linear IC

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.

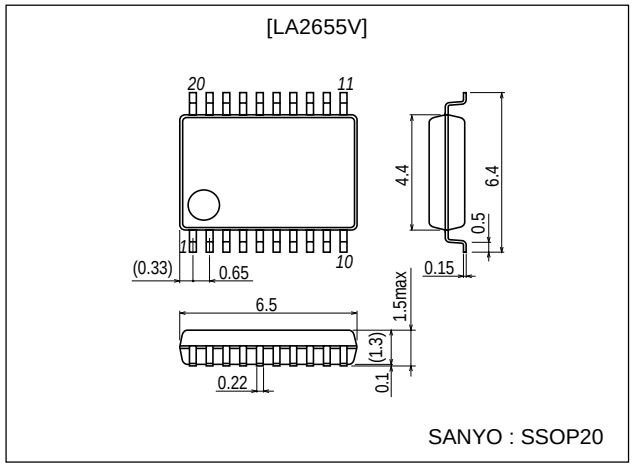
Functions

- "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	Topr		–25 to +70	˚C
Storage temperature	Tstg		–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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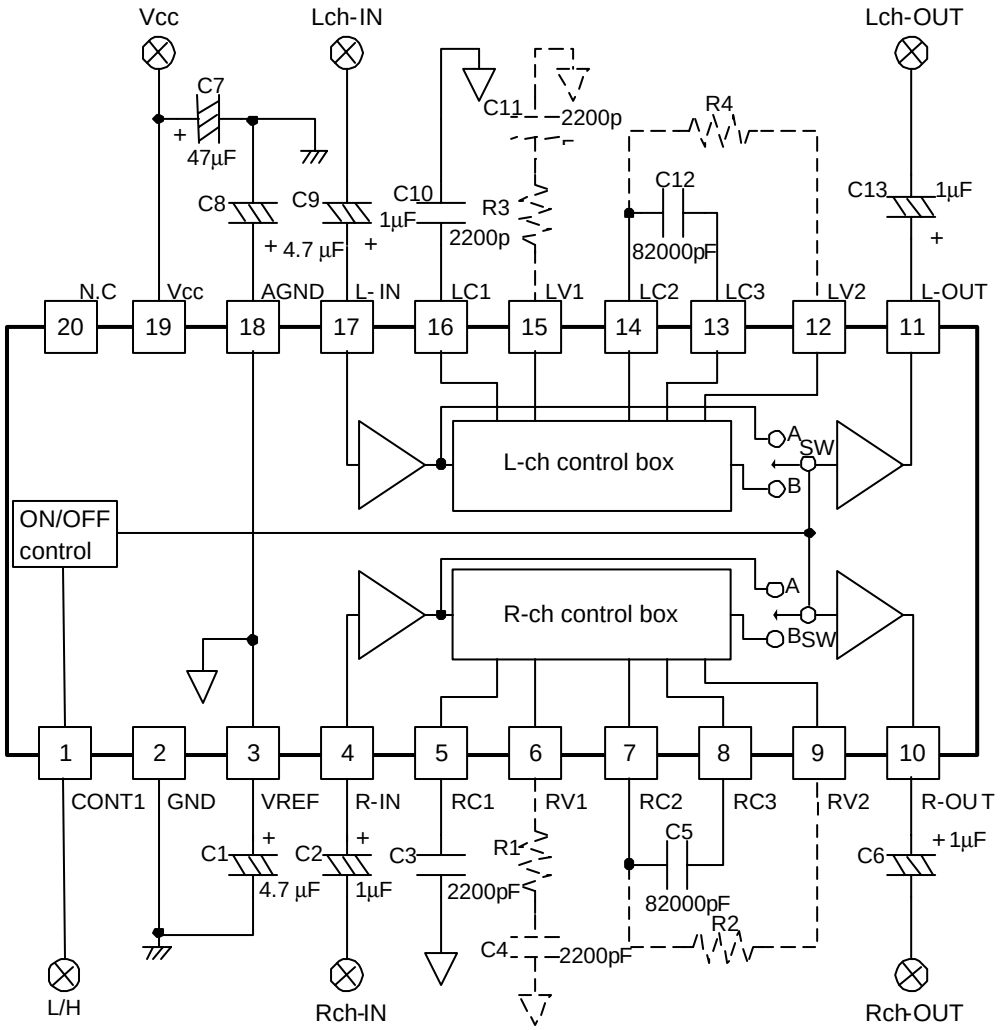
Electrical Characteristics at Ta = 25˚C, V_{CC}=9V, fm=1kHz, Vin=300mVrms=0dB, R_L=10kΩ

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent currant	IccT	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	Vo max T	Bypass	1.5	2		Vrms
	Vo 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	Vno T	Bypass		–95		dBm
	Vno C	ON		–85		dBm

Block Diagram

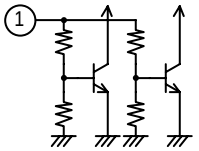
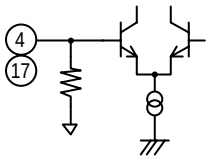
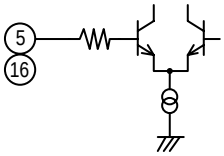
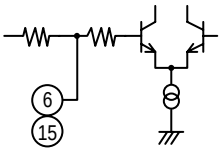
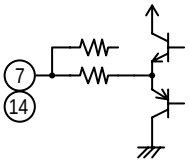
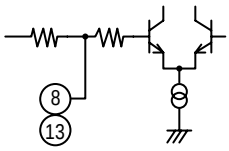
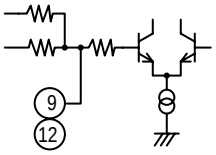
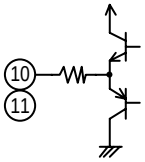


P1	Mode
L	I/O through
H	effect

High level	R1, R3	Remarks
Max	–	
Mid	18kΩ	
Min	11kΩ	

Low level	R2, R4	Remarks
Max	10kΩ	
Mid	24kΩ	
Min	–	

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.