

- Structure : Silicon Monolithic Integrated Circuit
- Product name : 2ch Voltage Controlled Amplifier for Adjustment Video Signal Level
- Type : **BA7655AF**
- Features :
  - 1) Broadband frequency characteristics
  - 2) Wide dynamic range
  - 3) Low power consumption
  - 4) Can mute output
  - 5) Voltage gain temperature drift is small

○Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply Voltage	V <sub>CCMAX.</sub>	8.0	V
Power dissipation	Pd	350 * <sup>1</sup>	mW
Operating temperature	T <sub>opr</sub>	-20~+80	°C
Storage temperature	T <sub>stg</sub>	-55~+125	°C

※1 Deratings is done at 3.5mW/°C above Ta=25°C.  
 (When mounted on a 50mm × 50mm PCB board.)

○Operating Range (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>cc</sub>	4.5~5.5	V

※This product is not designed for protection against radio active rays.

Application example

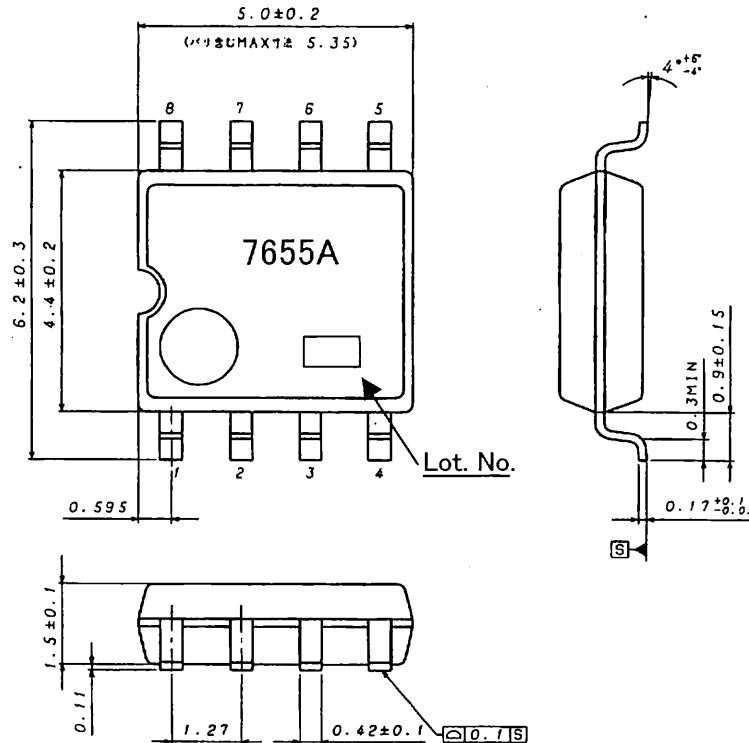
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○Electrical characteristics (Unless otherwise noted Ta=25°C, Vcc=5.0V)

Parameter		Symbol	Min.	Typ.	Max.	Unit	CTL Voltage (V)	Conditions
circuit current	One channel	ICC1	—	4.6	7.0	mA	3.0	CTL voltage set to 1 V or less if using only one channel
	Both channels	ICC2	—	7.8	12.0			
Maximum output voltage		VMax.	2.5	2.8	—	V <sub>P-P</sub>	5.0	f=1kHz, THD=1%
Frequency characteristics		Gf	-1.0	0.0	1.0	dB	3.0	f=13MHz / 1MHz, V <sub>IN</sub> =0.5 V <sub>P-P</sub>
Minimum voltage gain		GVMin.	-8.0	-6.0	-4.0	dB	2.0	f=1MHz
Maximum voltage gain		GVMax.	4.0	6.0	8.0	dB	5.0	f=1MHz
Secondary harmonic distortion		2HD	—	-4.0	—	dB	3.0	f=5.0MHz, V <sub>IN</sub> =1 V <sub>P-P</sub>
Audio distortion		AD	—	1.0	—	%	3.0	f=1kHz, V <sub>IN</sub> =1 V <sub>P-P</sub>
Muting output voltage		VMUTE	—	—	100	mV	1.0	CTL voltage set to 1 V or less
Video S/N ※		VS/N	—	-60	—	dB	3.0	
Audio S/N ※		AS/N	—	-60	—	dB	3.0	

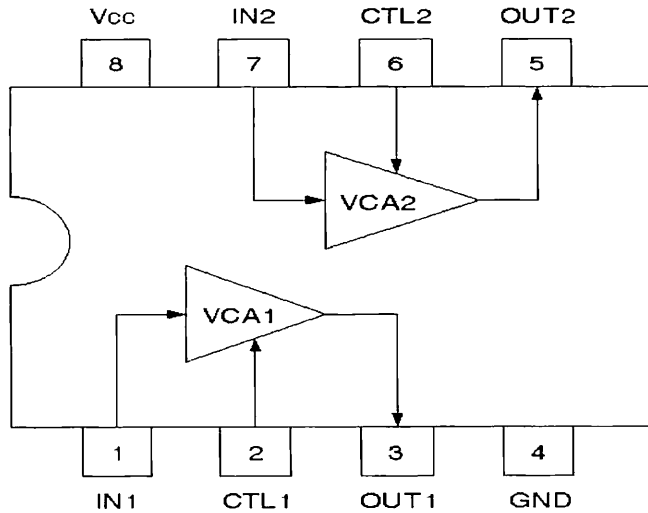
※Items having this mark are reference values.

○Outer dimensions



SOP8 (Unit: mm)

○Block diagram



○Pin number and pin name

Pin No.	Pin name
1	IN1
2	CTL1
3	OUT1
4	GND
5	OUT2
6	CTL2
7	IN2
8	Vcc

○Cautions on use

1) Absolute maximum ratings

If applied voltage, operating temperature range, or other absolute maximum ratings are exceeded, the LSI may be damaged. Do not apply voltages or temperatures that exceed the absolute maximum ratings. If you think of a case in which absolute maximum ratings are exceeded, enforce fuses or other physical safety measures and investigate how not to apply the conditions under which absolute maximum ratings are exceeded to the LSI.

2) GND potential

Make the GND pin voltage such that it is the lowest voltage even when operating below it. Actually confirm that the voltage of each pin does not become a lower voltage than the GND pin, including transient phenomena.

3) Thermal design

Perform thermal design in which there are adequate margins by taking into account the allowable power dissipation in actual states of use.

4) Shorts between pins and miss-installation

When mounting the LSI on a board, pay adequate attention to orientation and placement discrepancies of the LSI. If it is miss-installed and the power is turned on, the LSI may be damaged. It also may be damaged if it is shorted by a foreign substance coming between pins of the LSI or between a pin and a power supply or a pin and a GND.

5) Operation in strong magnetic fields

Adequately evaluate use in a strong magnetic field, since there is a possibility of malfunction.

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