Structure : Silicon Monolithic Integrated Circuit

Product name : Single Circuit Wide Dynamic Range Video Signal Switchers

Type : **BA7611AF**

Features :

1) Built-in mute function
2) Wide operating power supply voltage range
3) Good frequency characteristics (Typ. 10 MHz, 0 dB)
4) Wide dynamic range (Typ. 3.5 Vp-p)
5) Sync-tip clamp input
6) Low interchannel crosstalk (Typ. -65 dB, f=4.43 MHz)
7) Built-in 6 dB AMP

○Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Supply voltage	Vcc	13.5	V
Power dissipation	Pd	550 *1	mW
Operating temperature	Topr	-25～+75	℃
Storage temperature	Tstg	-55～+125	℃

*1 Deratings is done at 5.5mW/℃ above Ta=25℃.
(When mounted on a 70mm × 70mm × 1.6mm PCB board).

○Operating Range (Ta=25℃)

Parameter	Symbol	Min	Typ	Max	Unit
Power supply voltage	Vcc	4.5	5.0	13.0	V

* This product is not designed for protection against radioactive rays.

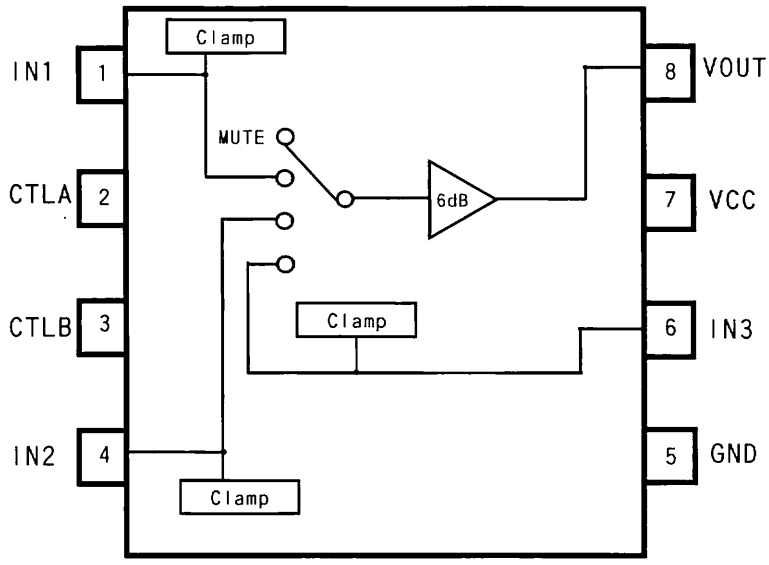
Application example

The product described in this specification is designed to be used with ordinary electronic equipment or devices (such as audio-visual equipment, office-automation equipment, communications devices, electrical appliances, and electronic toys). Should you intend to use this product with equipment or devices which require an extremely high level or reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices),please be sure to consult with our sales representative in advance.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	I_{CC}	-	10.5	15.5	mA	No signal
Maximum output level	V_{OM}	3.0	3.5	-	Vp-p	f=1kHz,THD=0.5%
Voltage gain	G_V	5.5	6.0	6.5	dB	f=1MHz,1Vp-p
Frequency characteristic	G_F	-3.0	0.0	1.0	dB	f=10MHz/1MHz,1Vp-p
Interchannel crosstalk	C_T	-	-65	-	dB	f=4.43MHz,1Vp-p
CTL pin switching level A	V_{THA}	1.0	2.0	3.0	V	CTLA(2PIN)threshold voltage
CTL pin switching level B	V_{THB}	1.0	2.0	3.0	V	CTLB(3PIN)threshold voltage

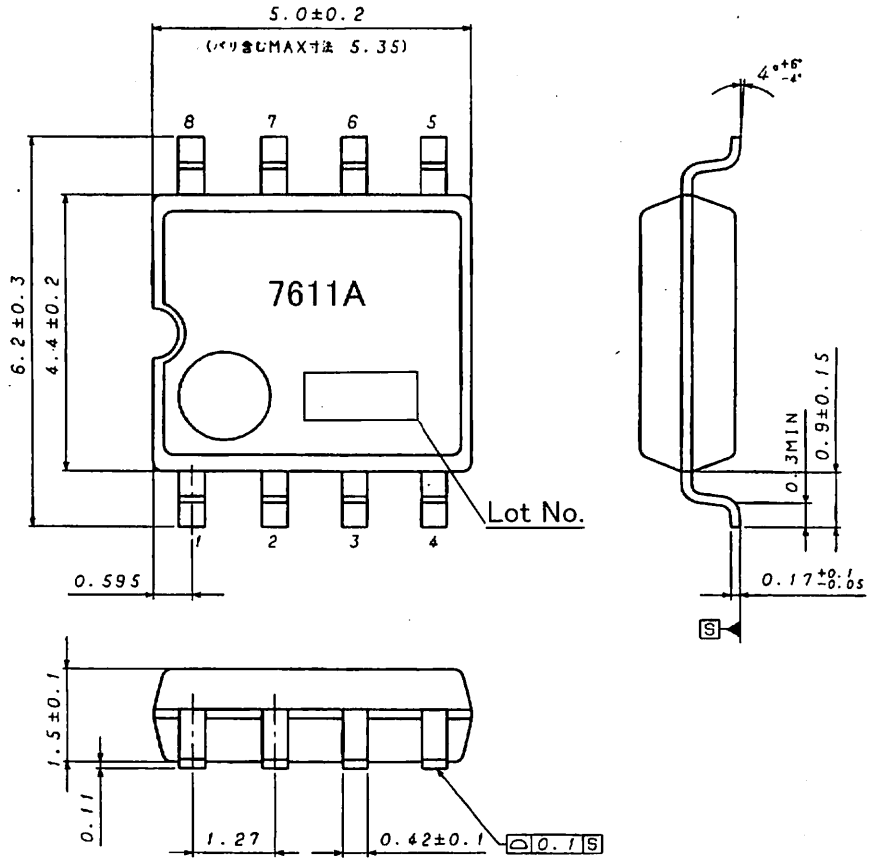
○Block diagram



○Pin number and pin name

Pin No.	Pin name
1	IN1
2	CTLA
3	CTLB
4	IN2
5	GND
6	IN3
7	VCC
8	VOUT

○Outer dimensions



SOP8 (Unit: mm)

○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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