

- 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°C)

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

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

○Operating Range (Ta=25°C)

| 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

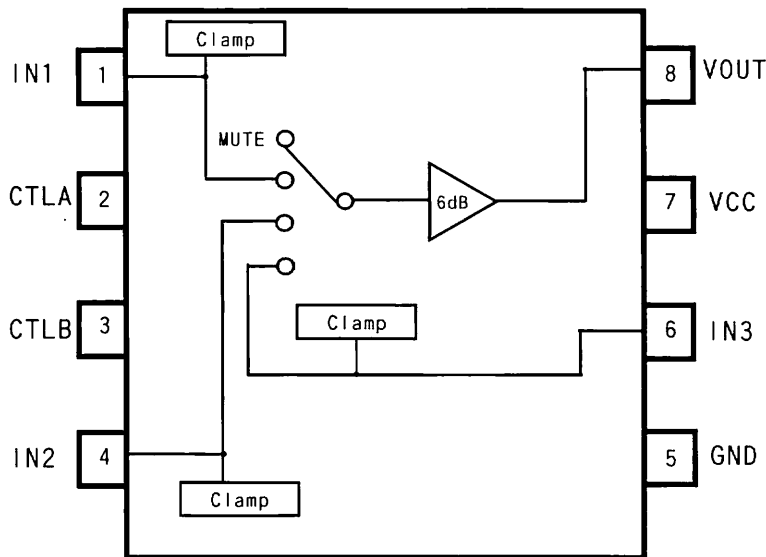
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○Electrical characteristics (Unless otherwise noted, Ta= 25°C, Vcc=5.0V)

| 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 |

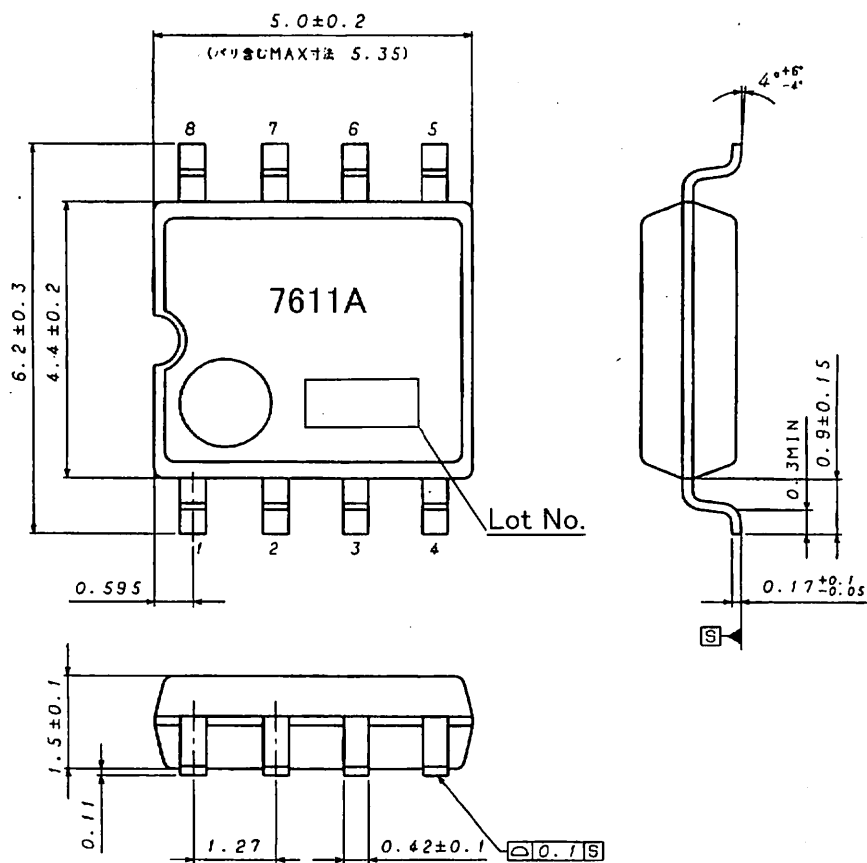
○Block diagram

○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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