

|          |  |                                                  |            |    |
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|             |                                             |
|-------------|---------------------------------------------|
| Structure   | Silicon Monolithic Bipolar IC               |
| Appearance  | 36-USO Pin Plastic Package (USONF-36D)      |
| Application | IC for Color TV                             |
| Function    | 4-Input AV Switch IC with RGB-YUV Converter |

| A   | Absolute Maximum Ratings        |        |                                             |                    |      |
|-----|---------------------------------|--------|---------------------------------------------|--------------------|------|
| No. | Item                            | Symbol | Ratings                                     | Unit               | Note |
| 1   | Storage Temperature             | Tstg   | -55 ~ +150                                  | °C                 | 1    |
| 2   | Operating Ambient Temperature   | Topr   | -20 ~ +70                                   | °C                 | 1    |
| 3   | Operating Ambient Pressure      | Popr   | 1.013x10 <sup>5</sup> ±0.61x10 <sup>5</sup> | Pa                 |      |
| 4   | Operating Constant Acceleration | Gopr   | 9810                                        | m / s <sup>2</sup> |      |
| 5   | Operating Shock                 | Sopr   | 4900                                        | m / s <sup>2</sup> |      |
| 6   | Power Supply Voltage            | Vcc    | 14                                          | V                  |      |
| 7   | Power Supply Current            | Icc    | 60                                          | mA                 |      |
| 8   | Power Dissipation               | PD     | 840                                         | mW                 |      |

|                                |     |             |
|--------------------------------|-----|-------------|
| Operating Supply Voltage Range | Vcc | 8.1V ~ 9.9V |
|--------------------------------|-----|-------------|

Note 1) The temperature of all items shall be Ta = 25°C except storage temperature and operating ambient temperature.

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| B Electrical Characteristics<br>(Vcc=9V, unless otherwise specified, the ambient temperature is 25°C±2°C) |                                 |                     |           |                                                                                              |       |      |     |      |      |
|-----------------------------------------------------------------------------------------------------------|---------------------------------|---------------------|-----------|----------------------------------------------------------------------------------------------|-------|------|-----|------|------|
| No.                                                                                                       | Item                            | Symbol              | Test Cct. | Condition                                                                                    | Limit |      |     | Unit | Note |
|                                                                                                           |                                 |                     |           |                                                                                              | Min   | Typ  | Max |      |      |
| 1                                                                                                         | Quiescent Current               | I <sub>CQ</sub>     | 1         | No input                                                                                     | 38    | 46   | 52  | mA   |      |
|                                                                                                           | [VIDEO BLOCK]                   |                     |           |                                                                                              |       |      |     |      |      |
| 2                                                                                                         | Video Gain (OUT1)               | G <sub>V1/6</sub>   | 1         | Select : 6dB<br>f =15kHz,<br>Vin=0.5Vp-p<br>RGB → YUV                                        | 5.0   | 5.7  | 6.4 | dB   |      |
|                                                                                                           |                                 | G <sub>V1CV/6</sub> |           |                                                                                              | 4.5   | 5.7  | 6.9 |      |      |
|                                                                                                           |                                 | G <sub>V1/4</sub>   | 1         | Select : 4.4dB<br>f =15kHz,<br>Vin=0.5Vp-p<br>RGB → YUV                                      | 3.4   | 4.1  | 4.8 |      |      |
|                                                                                                           |                                 | G <sub>V1CV/4</sub> |           |                                                                                              | 2.9   | 4.1  | 5.3 |      |      |
|                                                                                                           | Video Gain (OUT2)               | G <sub>V2/6</sub>   | 1         | Select : 6dB<br>f =15kHz,<br>Vin=0.5Vp-p<br>RGB → YUV<br>Y <sub>C</sub> mix NON<br>RGB → YUV | 5.0   | 5.7  | 6.4 | dB   | 1    |
|                                                                                                           |                                 | G <sub>V2CV/6</sub> |           |                                                                                              | 4.5   | 5.7  | 6.9 |      |      |
|                                                                                                           |                                 | G <sub>V2MX/6</sub> |           |                                                                                              | 4.5   | 5.7  | 6.9 |      |      |
|                                                                                                           |                                 | G <sub>V2/0</sub>   | 1         | Select : 0dB<br>f =15kHz,<br>Vin=0.5Vp-p<br>RGB → YUV<br>Y <sub>C</sub> mix NON<br>RGB → YUV | -1.0  | -0.3 | 0.4 | dB   | 2    |
|                                                                                                           |                                 | G <sub>V2CV/0</sub> |           |                                                                                              | -1.5  | -0.3 | 0.9 |      |      |
|                                                                                                           |                                 | G <sub>V2MX/0</sub> |           |                                                                                              | -1.5  | -0.3 | 0.9 |      |      |
| 3                                                                                                         | Video Frequency Characteristics | f <sub>Y</sub>      | 1         | f=100kHz, Vin=0.5Vp-p as reference 0dB, measure the frequency at output -3dB point.          | 20    | 30   | -   | MHz  |      |
|                                                                                                           |                                 | f <sub>UV</sub>     |           |                                                                                              | 10    | 20   | -   |      |      |
|                                                                                                           |                                 | f <sub>CONV</sub>   |           |                                                                                              | 10    | 20   | -   |      |      |
|                                                                                                           |                                 | f <sub>MIX</sub>    |           |                                                                                              | 10    | 20   | -   |      |      |
| 4                                                                                                         | Input Dynamic Range             | V <sub>DYUV</sub>   | 1         | f = 20kHz, maximum input when output at THD < 2.0%.                                          | 2.0   | 2.4  | -   | Vp-p |      |
|                                                                                                           |                                 | V <sub>DYCONV</sub> |           |                                                                                              | 2.0   | 2.4  | -   |      |      |
|                                                                                                           |                                 | V <sub>DYMIX</sub>  |           |                                                                                              | 1.9   | 2.3  | -   |      |      |
| 5                                                                                                         | Video Crosstalk                 | C <sub>M</sub>      | 1         | f=5MHz, Vin=1Vp-p                                                                            | 50    | 60   | -   | dB   |      |
|                                                                                                           | Y and U Crosstalk               | C <sub>YU</sub>     |           |                                                                                              | 35    | 40   | -   |      |      |
|                                                                                                           | Y and V Crosstalk               | C <sub>YV</sub>     |           |                                                                                              | 35    | 40   | -   |      |      |
|                                                                                                           | U and V Crosstalk               | C <sub>UV</sub>     |           |                                                                                              | 35    | 40   | -   |      |      |
| 6                                                                                                         | Mute Ratio(V/SY OUT1)           | MR                  | 1         | Vin=0.5Vp-p, f=15kHz                                                                         | 40    | 50   | -   | dB   |      |

Note 1 : SELECT GAIN (U/SC & V/SY = 6dB ; Y/SY/CV = 0dB; Both input U/SC & V/SY)

Note 2 : SELECT GAIN (U/SC & V/SY = 0dB ; Y/SY/CV = 0dB; Both input U/SC & V/SY)

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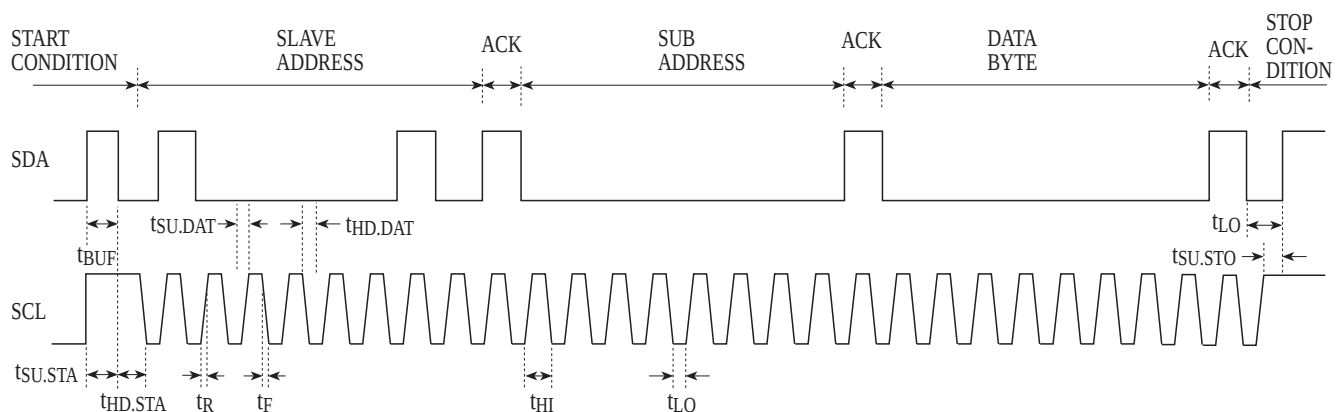
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| B Electrical Characteristics |                                   | (V <sub>CC</sub> =9V, unless otherwise specified, the ambient temperature is 25°C ± 2°C) |              |                                                                                                          |        |     |     |                  |      |
|------------------------------|-----------------------------------|------------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------|--------|-----|-----|------------------|------|
| No                           | Item                              | Symbol                                                                                   | Test Circuit | Conditions                                                                                               | Limits |     |     | Unit             | Note |
|                              |                                   |                                                                                          |              |                                                                                                          | min    | typ | max |                  |      |
|                              | [AUDIO BLOCK]                     |                                                                                          |              |                                                                                                          |        |     |     |                  |      |
| 7                            | Audio Gain                        | G <sub>A</sub>                                                                           | 1            | f=1kHz, 1V <sub>p-p</sub>                                                                                | -0.5   | 0   | 0.5 | dB               |      |
| 8                            | Audio Frequency Characteristics   | f <sub>A</sub>                                                                           | 1            | f=1kHz, V <sub>in</sub> =1V <sub>p-p</sub> as reference 0dB, measure the frequency at output -3dB point. | 36     | 41  | -   | kHz              |      |
| 9                            | Input Dynamic Range               | V <sub>DYA</sub>                                                                         | 1            | f=1kHz, maximum input when output at THD < 1.5%                                                          | 2.8    | 2.9 | -   | V <sub>rms</sub> |      |
| 10                           | Source Crosstalk                  | C <sub>A</sub>                                                                           | 1            | f=1kHz, V <sub>in</sub> =1V <sub>p-p</sub><br>Din Audio                                                  | 80     | 85  | -   | dB               |      |
|                              | Channel Crosstalk                 | C <sub>LR</sub>                                                                          |              |                                                                                                          | 80     | 85  | -   |                  |      |
|                              | [IIC Interface]                   |                                                                                          |              |                                                                                                          |        |     |     |                  |      |
| 11                           | Suction current during ACK        | I <sub>ACK</sub>                                                                         | 1            | Max. suction current value of Pin 36 at 0.4V.                                                            | 3.0    | 10  | -   | mA               |      |
| 12                           | SCL, SDA signal input high level  | V <sub>IHI</sub>                                                                         | 1            |                                                                                                          | 3.0    | -   | 5.5 | V                |      |
| 13                           | SCL, SDA signal input low level   | V <sub>ILO</sub>                                                                         | 1            |                                                                                                          | 0      | -   | 1.5 | V                |      |
| 14                           | Max. frequency allowable to input | f <sub>imax</sub>                                                                        | 1            |                                                                                                          | -      | -   | 100 | kbit/s           |      |

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| B Electrical Characteristics |                             | (VCC=9V, unless otherwise specified, the ambient temperature is 25°C ± 2°C) |               |            |        |     |      |      |      |
|------------------------------|-----------------------------|-----------------------------------------------------------------------------|---------------|------------|--------|-----|------|------|------|
| No                           | Item                        | Symbol                                                                      | Test Cir-cuit | Conditions | Limits |     |      | Unit | Note |
|                              |                             |                                                                             |               |            | min    | typ | max  |      |      |
|                              | [IIC Interface]             |                                                                             |               |            |        |     |      |      |      |
| 1                            | Bus free before start       | t <sub>BUF</sub>                                                            |               |            | 4.0    | -   | -    | μs   |      |
| 2                            | Start condition set-up time | t <sub>SU, STA</sub>                                                        |               |            | 4.0    | -   | -    | μs   |      |
| 3                            | Start condition hold time   | t <sub>HD, STA</sub>                                                        |               |            | 4.0    | -   | -    | μs   |      |
| 4                            | Low period SCL, SDA         | t <sub>LO</sub>                                                             |               |            | 4.0    | -   | -    | μs   |      |
| 5                            | High period SCL             | t <sub>HI</sub>                                                             |               |            | 4.0    | -   | -    | μs   |      |
| 6                            | Rise time SCL, SDA          | t <sub>R</sub>                                                              |               |            | -      | -   | 1.0  | μs   |      |
| 7                            | Fall time SCL, SDA          | t <sub>F</sub>                                                              |               |            | -      | -   | 0.35 | μs   |      |
| 8                            | Data set-up time (write)    | t <sub>SU, DAT</sub>                                                        |               |            | 0.25   | -   | -    | μs   |      |
| 9                            | Data hold time (write)      | t <sub>HD, DAT</sub>                                                        |               |            | 0      | -   | -    | μs   |      |
| 10                           | Acknowledge set-up time     | t <sub>SU, ACK</sub>                                                        |               |            | -      | -   | 3.5  | μs   |      |
| 11                           | Acknowledge hold time       | t <sub>HD, ACK</sub>                                                        |               |            | 0      | -   | -    | μs   |      |
| 12                           | Stop condition set-up time  | t <sub>SU, STO</sub>                                                        |               |            | 4.0    | -   | -    | μs   |      |



Note) The above characteristics are reference values on IC designing and not guaranteed by shipping inspection.

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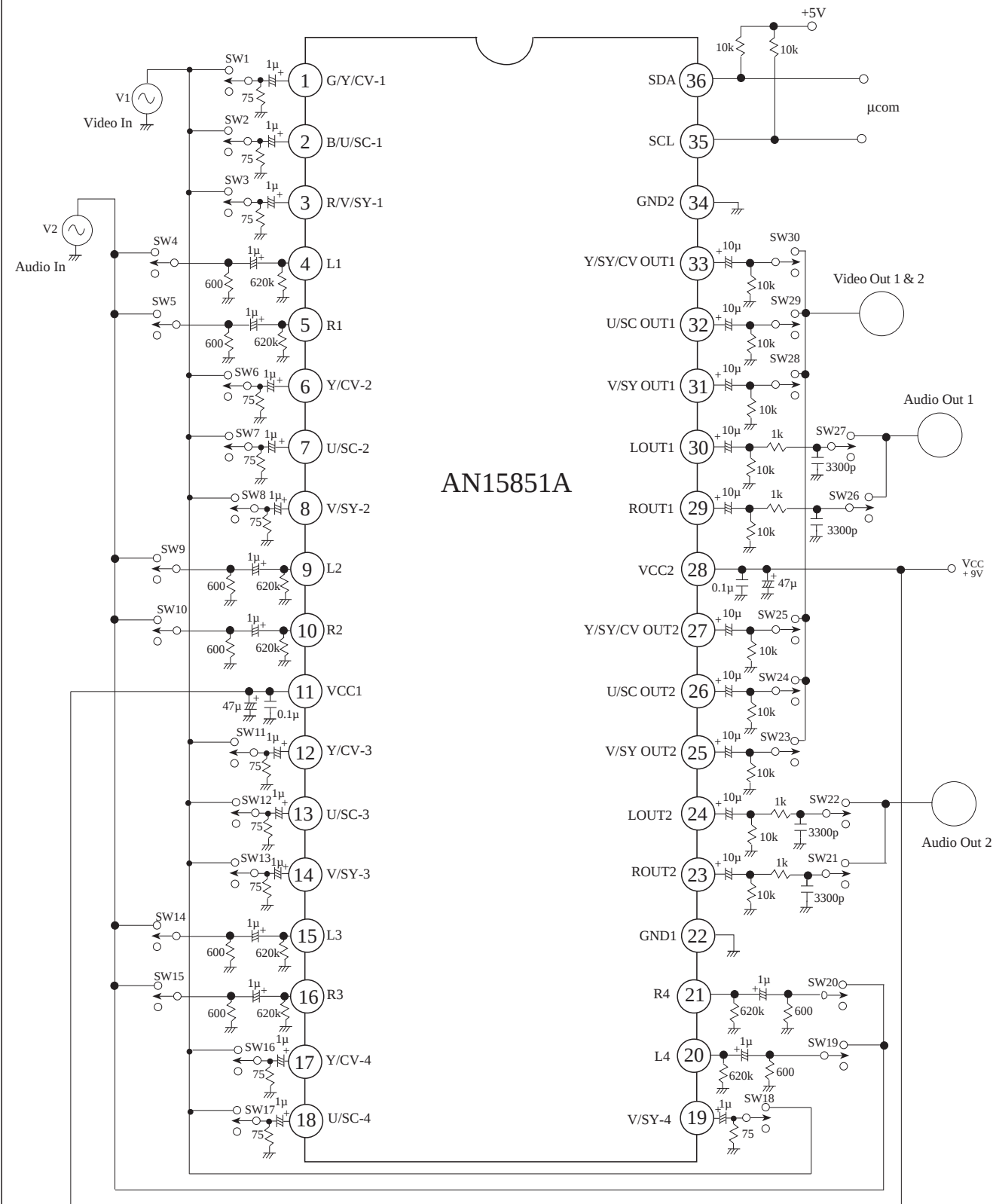
| B  | Electrical Characteristics (VCC=9V, unless otherwise specified, the ambient temperature is 25°C ± 2°C) |        |               |                                |        |     |     |      |      |
|----|--------------------------------------------------------------------------------------------------------|--------|---------------|--------------------------------|--------|-----|-----|------|------|
| No | Item                                                                                                   | Symbol | Test Cir-cuit | Conditions                     | Limits |     |     | Unit | Note |
|    |                                                                                                        |        |               |                                | min    | typ | max |      |      |
|    | [Video Block]                                                                                          |        |               |                                |        |     |     |      |      |
| 13 | Total Harmonic Distortion 1                                                                            | THDV   | 1             | Vin=0.5Vp-p, f=20kHz           | -      | 0.4 | 1.0 | %    |      |
|    | [Audio Block]                                                                                          |        |               |                                |        |     |     |      |      |
| 14 | Total Harmonic Distortion 2                                                                            | THDA   | 1             | Vin=1Vrms, f=1kHz<br>Din Audio | -      | 0.1 | 0.3 | %    |      |
|    |                                                                                                        |        |               |                                |        |     |     |      |      |

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## Test Circuit 1

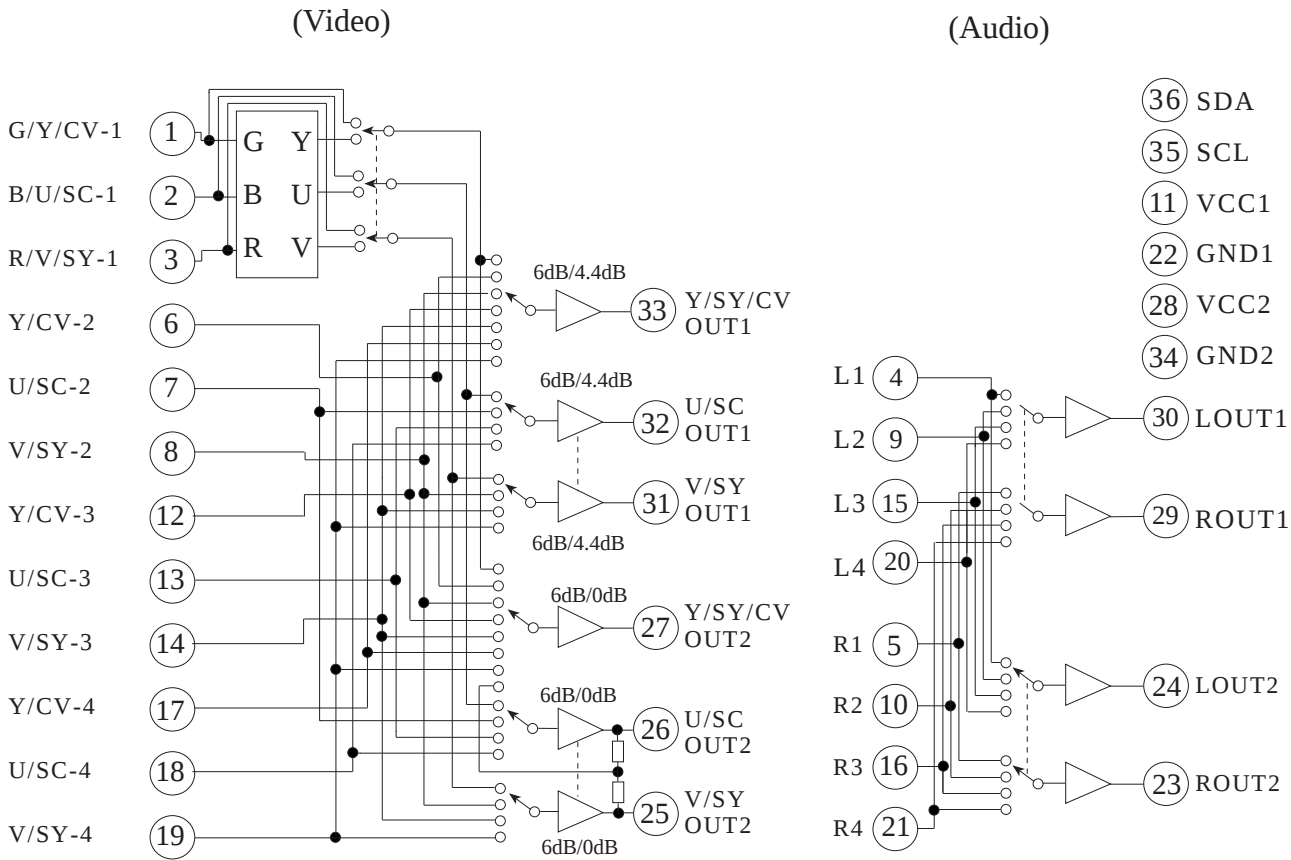


Note : The above circuit is used for Latchup Testing

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Circuit Function Block Diagram



Pin Descriptions

| Pin No. | Pin Name       | Pin No. | Pin Name     | Pin No. | Pin Name     |
|---------|----------------|---------|--------------|---------|--------------|
| 1       | G/Y/CV-1 Input | 13      | U/SC-3 Input | 25      | V/SY OUT2    |
| 2       | B/U/SC-1 Input | 14      | V/SY-3 Input | 26      | U/SC OUT2    |
| 3       | R/V/SY-1 Input | 15      | L3 Input     | 27      | Y/SY/CV OUT2 |
| 4       | L1 Input       | 16      | R3 Input     | 28      | VCC2         |
| 5       | R1 Input       | 17      | Y/CV-4 Input | 29      | ROUT1        |
| 6       | Y/CV-2 Input   | 18      | U/SC-4 Input | 30      | LOUT1        |
| 7       | U/SC-2 Input   | 19      | V/SY-4 Input | 31      | V/SY OUT1    |
| 8       | V/SY-2 Input   | 20      | L4 Input     | 32      | U/SC OUT1    |
| 9       | L2 Input       | 21      | R4 Input     | 33      | Y/SY/CV OUT1 |
| 10      | R2 Input       | 22      | GND1         | 34      | GND2         |
| 11      | VCC1           | 23      | ROUT2        | 35      | SCL          |
| 12      | Y/CV-3 Input   | 24      | LOUT2        | 36      | SDA          |

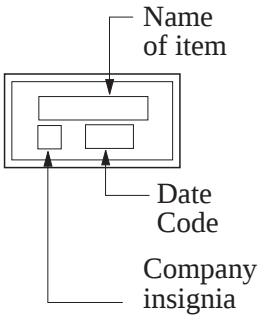
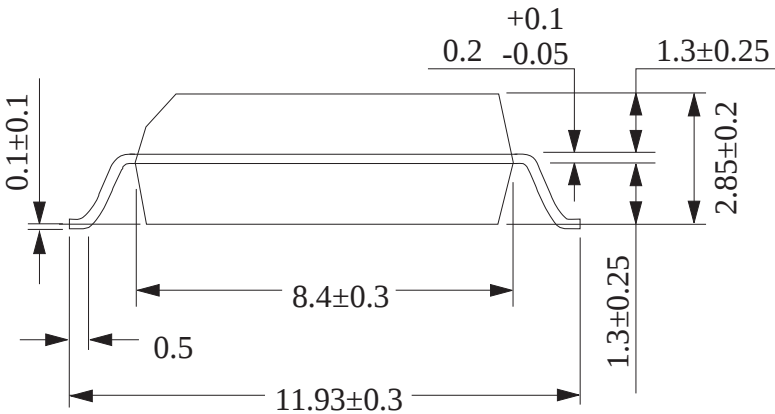
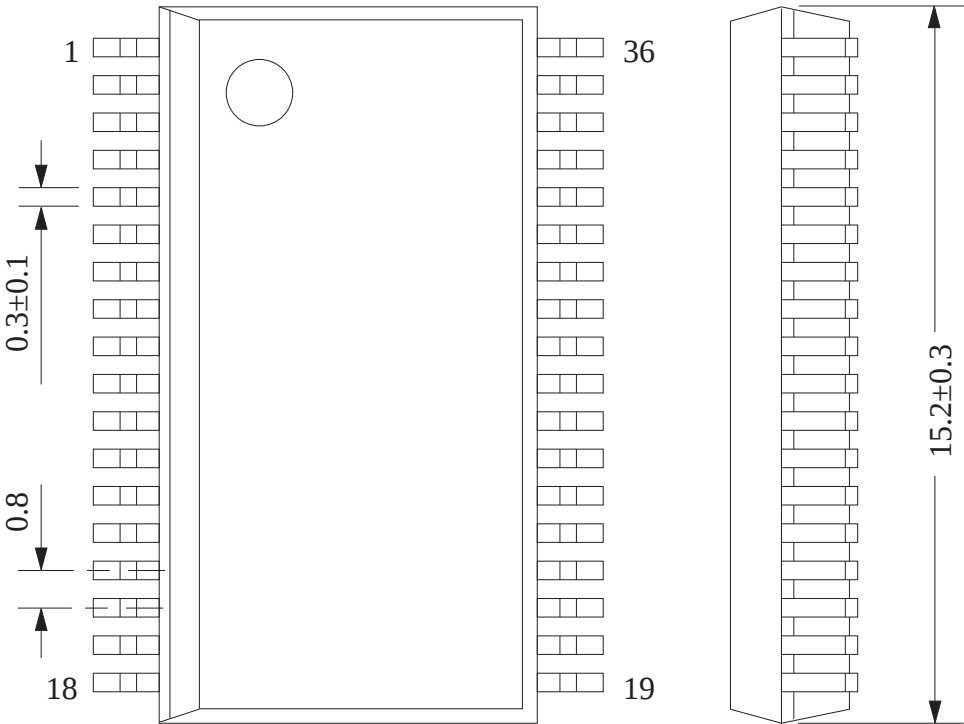
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Package Name

USONF-36D

Unit : mm



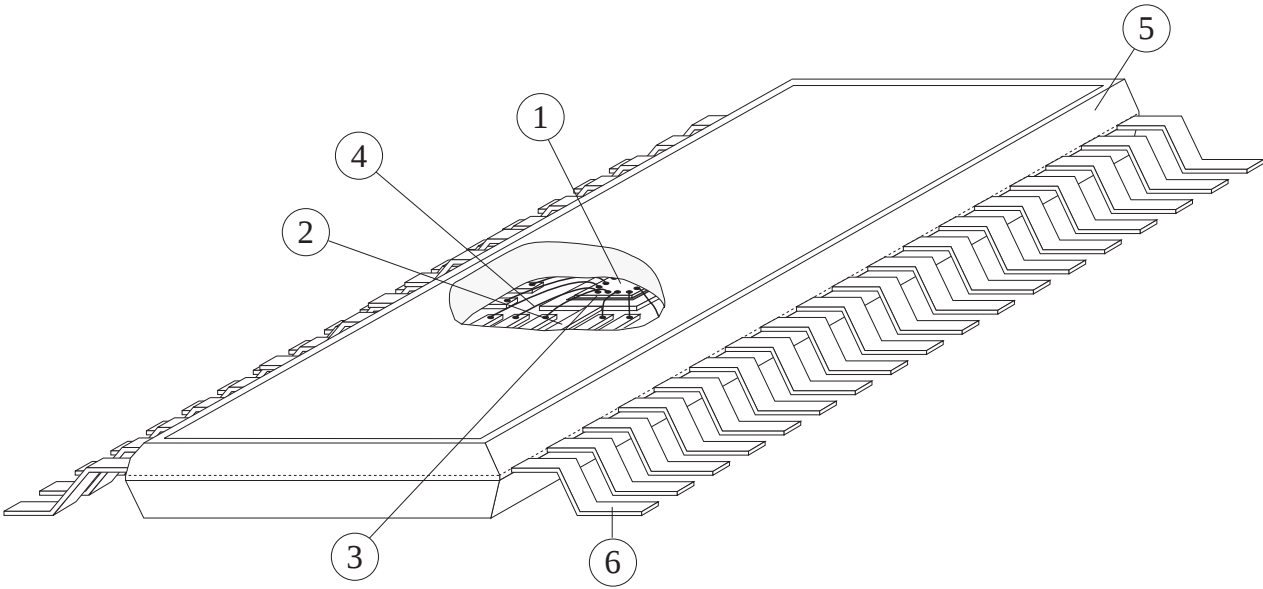
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(Structure Description)

|                            |                          |                      |               |      |
|----------------------------|--------------------------|----------------------|---------------|------|
| Chip surface passivation   | SiN,                     | PSG,                 | Others (    ) | ①    |
| Lead frame material        | Fe group,                | Cu group,            | Others (    ) | ②, ⑥ |
| Inner lead surface process | Ag plating,              | Au plating,          | Others (    ) | ②    |
| Outer lead surface process | Solder plating,          | Solder dip,          | Others (    ) | ⑥    |
| Chip mounting method       | Ag paste,                | Au-Si alloy, Solder, | Others (    ) | ③    |
| Wire bonding method        | Ultrasonic heat bonding, |                      | Others (    ) | ④    |
| Wire material              | Au,                      | Diameter 24 μm       | Others (    ) | ④    |
| Mold material              | Epoxy,                   |                      | Others (    ) | ⑤    |
| Molding method             | Transfer mold,           | Multiplunger mold,   | Others (    ) | ⑤    |

Package USONF-36D



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| Pin No.            | Pin Name             | Pin Voltage | Description                                                                                                                                                                               | Equivalent Circuit |
|--------------------|----------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1                  | G/Y/CV-1             | 4.5V        | <ul style="list-style-type: none"> <li>Video signal input.</li> <li>Can be G, Y or Composite Video signal.</li> <li>Selectively controlled by IIC Bus to convert RGB to YUV.</li> </ul>   |                    |
| 2                  | B/U/SC-1             | 4.5V        | <ul style="list-style-type: none"> <li>Video signal input.</li> <li>Can be B, U or S-Video Chrominance (SC).</li> <li>Selectively controlled by IIC Bus to convert RGB to YUV.</li> </ul> |                    |
| 3                  | R/V/SY-1             | 4.5V        | <ul style="list-style-type: none"> <li>Video signal input.</li> <li>Can be R, V or S-Video Luminance (SY).</li> <li>Selectively controlled by IIC Bus to convert RGB to YUV.</li> </ul>   |                    |
| 4<br>9<br>15<br>20 | L1<br>L2<br>L3<br>L4 | 4.7V        | <ul style="list-style-type: none"> <li>Audio signal inputs.</li> </ul>                                                                                                                    |                    |

Note : Y = Component Video luminance  
 U = Component Video B-Y  
 V = Component Video R-Y

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| Pin No.             | Pin Name                   | Pin Voltage | Description                                                                                                      | Equivalent Circuit |
|---------------------|----------------------------|-------------|------------------------------------------------------------------------------------------------------------------|--------------------|
| 5<br>10<br>16<br>21 | R1<br>R2<br>R3<br>R4       | 4.7V        | <ul style="list-style-type: none"> <li>• Audio signal inputs.</li> </ul>                                         |                    |
| 6<br>12<br>17       | Y/CV-2<br>Y/CV-3<br>Y/CV-4 | 4.5V        | <ul style="list-style-type: none"> <li>• Video signal inputs.</li> <li>• Can be Y or Composite Video.</li> </ul> |                    |

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| Pin No.       | Pin Name                   | Pin Voltage | Description                                                                                                           | Equivalent Circuit |
|---------------|----------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------|--------------------|
| 7<br>13<br>18 | U/SC-2<br>U/SC-3<br>U/SC-4 | 4.5V        | <ul style="list-style-type: none"> <li>Video signal inputs.</li> <li>Can be U or S-Video Chrominance (SC).</li> </ul> |                    |
| 8<br>14<br>19 | V/SY-2<br>V/SY-3<br>V/SY-4 | 4.5V        | <ul style="list-style-type: none"> <li>Video signal inputs.</li> <li>Can be V or S-Video Luminance (SY).</li> </ul>   |                    |

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| Pin No.  | Pin Name                           | Pin Voltage | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Equivalent Circuit |
|----------|------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 27<br>33 | Y/SY/CV<br>OUT1<br>Y/SY/CV<br>OUT2 | 4.5V        | <ul style="list-style-type: none"> <li>Video signal output.</li> <li>Can be Y, S -Video Luminance (SY) or Composite Video depend on the input signal.</li> <li>Y/SY/CV OUT1 Video Gain of 4.4dB or 6dB selectively controlled by IIC Bus.</li> <li>Y/SY/CV OUT2 Video Gain of 4.4dB or 6dB selectively controlled by IIC Bus.</li> <li>Y/SY/CV OUT2 has additional feature of converting S- Video inputs to Composite Video selectively controlled by IIC Bus.</li> </ul> |                    |
| 32       | U/SC<br>OUT1                       | 4.5V        | <ul style="list-style-type: none"> <li>Video signal output.</li> <li>Can be U or S-Video Chrominance (SC) depend on the input signal.</li> <li>Video Gain of 4.4dB or 6dB selectively controlled by IIC Bus.</li> </ul>                                                                                                                                                                                                                                                   |                    |
| 31       | V/SY<br>OUT1                       | 4.5V        | <ul style="list-style-type: none"> <li>Video signal output.</li> <li>Can be V or S-Video Luminance (SY) depend on the input.</li> <li>Video Gain of 4.4dB or 6dB selectively controlled by IIC Bus.</li> <li>Video signal Mute selectively controlled by IIC Bus.</li> </ul>                                                                                                                                                                                              |                    |

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| Pin No.              | Pin Name                         | Pin Voltage | Description                                                                                                                                                                                                                         | Equivalent Circuit |
|----------------------|----------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 26                   | U/SC OUT2                        | 4.5V        | <ul style="list-style-type: none"> <li>Video signal output.</li> <li>Can be U or S-Video Chrominance (SC) output signal depend on the input signal.</li> <li>Video Gain of 0dB or 6dB selectively controlled by IIC Bus.</li> </ul> |                    |
| 25                   | V/SY OUT2                        | 4.5V        | <ul style="list-style-type: none"> <li>Video signal output.</li> <li>Can be V or S-Video Luminance (SY) output signal depend on the input signal.</li> <li>Video Gain of 0dB or 6dB selectively controlled by IIC Bus.</li> </ul>   |                    |
| 23<br>24<br>29<br>30 | ROUT2<br>LOUT2<br>ROUT1<br>LOUT1 | 4.7V        | <ul style="list-style-type: none"> <li>Audio signal output.</li> </ul>                                                                                                                                                              |                    |

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| Pin No. | Pin Name | Pin Voltage | Description            | Equivalent Circuit |
|---------|----------|-------------|------------------------|--------------------|
| 35      | SCL      | -           | ● IIC Bus Clock input. |                    |
| 36      | SDA      | -           | ● IIC Bus Data input.  |                    |
|         |          |             |                        |                    |

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[I<sup>2</sup>C BUS]

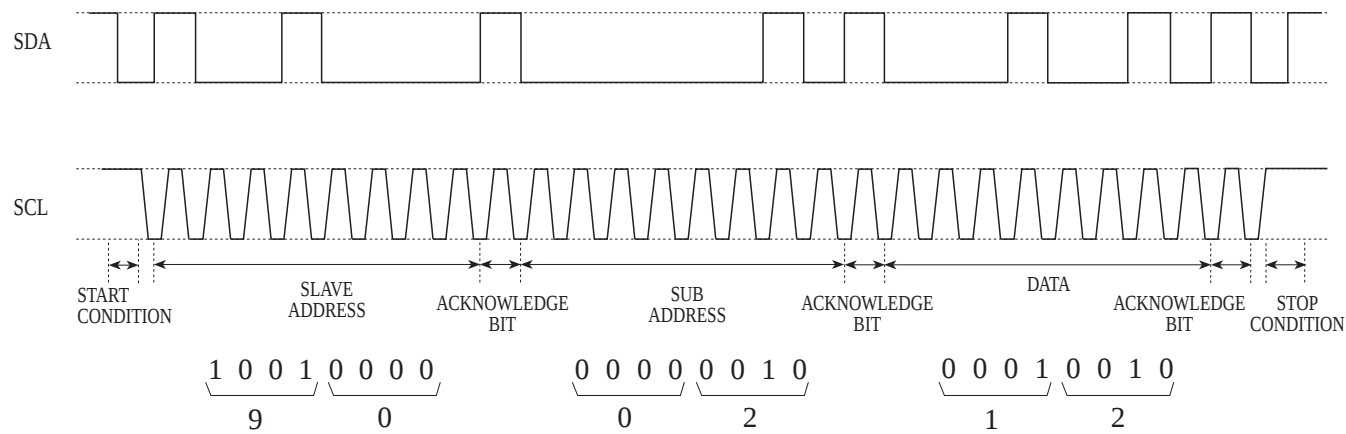


Fig.1 Example of transmission message

For transmission messages, both SCL and SDA are transferred in the form of synchronized serial transmission. SCL is a clock of a specific frequency, and SDA indicates address data for controlling the receiving side and is transferred in parallel, being synchronized with SCL. Data is transferred in principle in 3 octets (bytes), and each one octet (one octet = 8bits) includes one acknowledge bit. Frame structure is described below.

- (a) Start Condition

The receiver becomes possible to receive data when SDA changes from HI to LO while SCL is HI.
- (b) Stop Condition

The receiver halts receiving when SDA changes from LO to HI while SCL is HI.
- (c) Slave Address

This is an address which is determined for each device. If other device address is sent, receiving will be halted.
- (d) Sub Address

This is an address which is determined for each function.
- (e) Data

This is control data.
- (f) Acknowledge Bit

This is a bit by which the master acknowledges that data was successfully received in each octet. Master sends the HI signal and the receiver sends back the LO signal as shown in Figure1 with dotted line, causing the master to acknowledge the reception by the receiver. If the LO signal is not returned, communication will be halted.

Except Start and Stop conditions, SDA does not change while SCL is HI.

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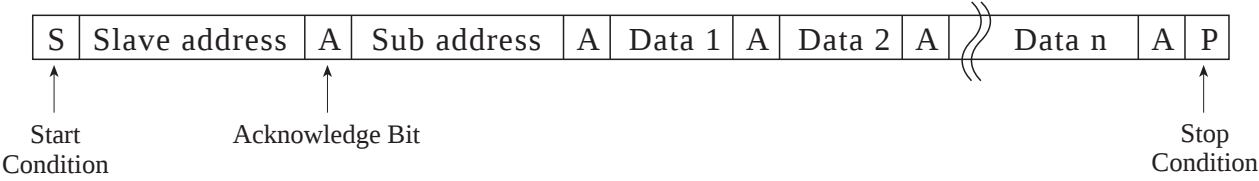
|          |  |                                                                                    |            |     |
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[I<sup>2</sup>C BUS ADDRESSING]

- (1) This contains 12 SWs
- (2) Auto-increment function present :
 
  - Sub address 0\*\*\*\*\* : Auto-Increment Mode  
(When the data is sent in consecutive order, the Sub-address will be changed in consecutive order, as data is input.)
  - Sub address 1\*\*\*\*\* :Data Update Mode  
(When the data is sent consecutively, it is sent to the same Sub-address)
- (3) I<sup>2</sup>C BUS PROTOCOL
 
  - Slave address : 10010000 (90H)
  - Format (Usual)



- Auto-Increment Mode/Data Update Mode



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#### (4) Sub address byte and data byte format

| Sub Address | Data Byte           |    |                     |    |                |                  |                |    |
|-------------|---------------------|----|---------------------|----|----------------|------------------|----------------|----|
|             | D7                  | D6 | D5                  | D4 | D3             | D2               | D1             | D0 |
| SLAVE       | 1                   | 0  | 0                   | 1  | 0              | 0                | 0              | 0  |
| 00          | ← V/SY OUT1 →       |    | ← U/SC OUT1 →       |    | RGB/YUV SEL    | ← Y/SY/CV OUT1 → |                |    |
| 01          | ← V/SY OUT2 →       |    | ← U/SC OUT2 →       |    | Mute V/SYOUT1  | ← Y/SY/CV OUT2 → |                |    |
| 02          | ← Gain Video OUT2 → |    | ← Gain Video OUT1 → |    | ← Audio OUT2 → |                  | ← Audio OUT1 → |    |

##### SUB-ADDRESS : 00

| D2 | D1 | D0 | Y/SY/CV OUT1   |
|----|----|----|----------------|
| 0  | 0  | 0  | G/Y/CV-1 INPUT |
| 0  | 0  | 1  | Y/CV-2 INPUT   |
| 0  | 1  | 0  | V/SY-2 INPUT   |
| 0  | 1  | 1  | Y/CV-3 INPUT   |
| 1  | 0  | 0  | V/SY-3 INPUT   |
| 1  | 0  | 1  | Y/CV-4 INPUT   |
| 1  | 1  | 0  | V/SY-4 INPUT   |
| 1  | 1  | 1  | G/Y/CV-1 INPUT |

##### SUB-ADDRESS : 00

| D3 | RGB/YUV SEL       |
|----|-------------------|
| 1  | Direct            |
| 0  | RGB→YUV Converter |

##### SUB-ADDRESS : 01

| D2 | D1 | D0 | Y/SY/CV OUT2          |
|----|----|----|-----------------------|
| 0  | 0  | 0  | G/Y/CV-1 INPUT        |
| 0  | 0  | 1  | Y/CV-2 INPUT          |
| 0  | 1  | 0  | V/SY-2 INPUT          |
| 0  | 1  | 1  | Y/CV-3 INPUT          |
| 1  | 0  | 0  | V/SY-3 INPUT          |
| 1  | 0  | 1  | Y/CV-4 INPUT          |
| 1  | 1  | 0  | V/SY-4 INPUT          |
| 1  | 1  | 1  | U/SC OUT2 + V/SY OUT2 |

##### SUB-ADDRESS : 01

| D3 | Mute V/SYOUT1 |
|----|---------------|
| 0  | OFF           |
| 1  | ON            |

##### SUB-ADDRESS : 00

| D5 | D4 | U/SC OUT1      |
|----|----|----------------|
| 0  | 0  | B/U/SC-1 INPUT |
| 0  | 1  | U/SC-2 INPUT   |
| 1  | 0  | U/SC-3 INPUT   |
| 1  | 1  | U/SC-4 INPUT   |

##### SUB-ADDRESS : 00

| D7 | D6 | V/SY OUT1      |
|----|----|----------------|
| 0  | 0  | R/V/SY-1 INPUT |
| 0  | 1  | V/SY-2 INPUT   |
| 1  | 0  | V/SY-3 INPUT   |
| 1  | 1  | V/SY-4 INPUT   |

##### SUB-ADDRESS : 01

| D5 | D4 | U/SC OUT2      |
|----|----|----------------|
| 0  | 0  | B/U/SC-1 INPUT |
| 0  | 1  | U/SC-2 INPUT   |
| 1  | 0  | U/SC-3 INPUT   |
| 1  | 1  | U/SC-4 INPUT   |

##### SUB-ADDRESS : 01

| D7 | D6 | V/SY OUT2      |
|----|----|----------------|
| 0  | 0  | R/V/SY-1 INPUT |
| 0  | 1  | V/SY-2 INPUT   |
| 1  | 0  | V/SY-3 INPUT   |
| 1  | 1  | V/SY-4 INPUT   |

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SUB-ADDRESS : 02

| D1 | D0 | LOUT1/ROUT1 |
|----|----|-------------|
| 0  | 0  | LIN1, RIN1  |
| 0  | 1  | LIN2, RIN2  |
| 1  | 0  | LIN3, RIN3  |
| 1  | 1  | LIN4, RIN4  |

SUB-ADDRESS : 02

| D3 | D2 | LOUT2/ROUT2 |
|----|----|-------------|
| 0  | 0  | LIN1, RIN1  |
| 0  | 1  | LIN2, RIN2  |
| 1  | 0  | LIN3, RIN3  |
| 1  | 1  | LIN4, RIN4  |

SUB-ADDRESS : 02

| Gain Video OUT1 |                    | 1     | 0     |
|-----------------|--------------------|-------|-------|
| D4              | Y/SY/CV OUT1       | 6.0dB | 4.4dB |
| D5              | U/SC and V/SY OUT1 | 4.4dB | 6.0dB |

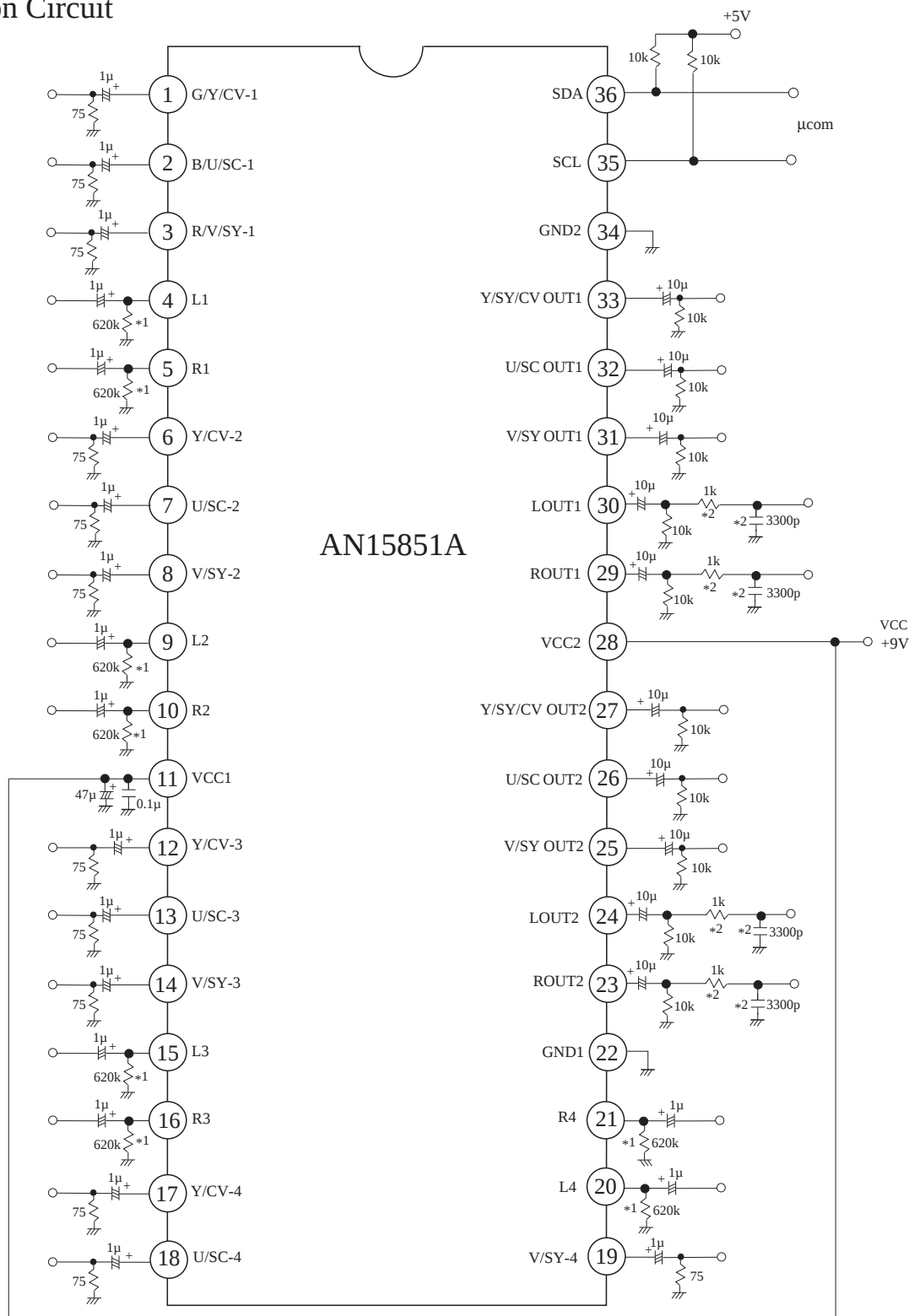
SUB-ADDRESS : 02

| Gain Video OUT2 |                    | 1     | 0     |
|-----------------|--------------------|-------|-------|
| D6              | Y/SY/CV OUT2       | 6.0dB | 0dB   |
| D7              | U/SC and V/SY OUT2 | 0dB   | 6.0dB |

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## Application Circuit



Note : 1) The 620k $\Omega$  (\*1) resistors are to improve Audio Input Dyanamic Range.  
 2) The 1k $\Omega$  resistors (\*2) and 3300pF capacitors (\*2) are for oscillation prevention.

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(Precautions for use)

Make sure that the IC is not reverse mounted or pin shifted. The IC will be damaged under such conditions.

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