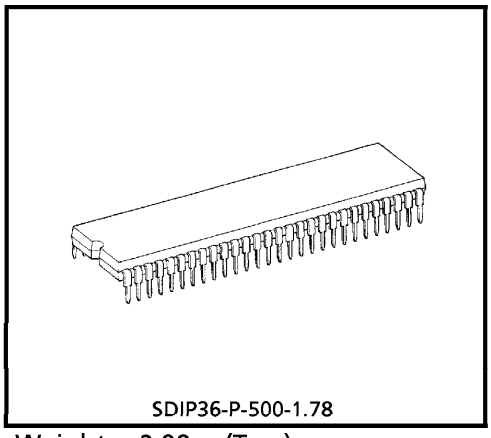
TENTATIVE TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA8777BN

## AV SWITCH FOR COLOR TV

TA8777BN is a switching IC comprising two audio (R / L) and a video circuit and is offered in a shrink 36-pin plastic package.
The inputs for all the three audio / video circuits can be simultaneously switched among a TV input channel and for external input channels. Tow of the four external input channels are compatible with S-terminals.
TA8777BN is controlled via the $I^2C$ Bus.



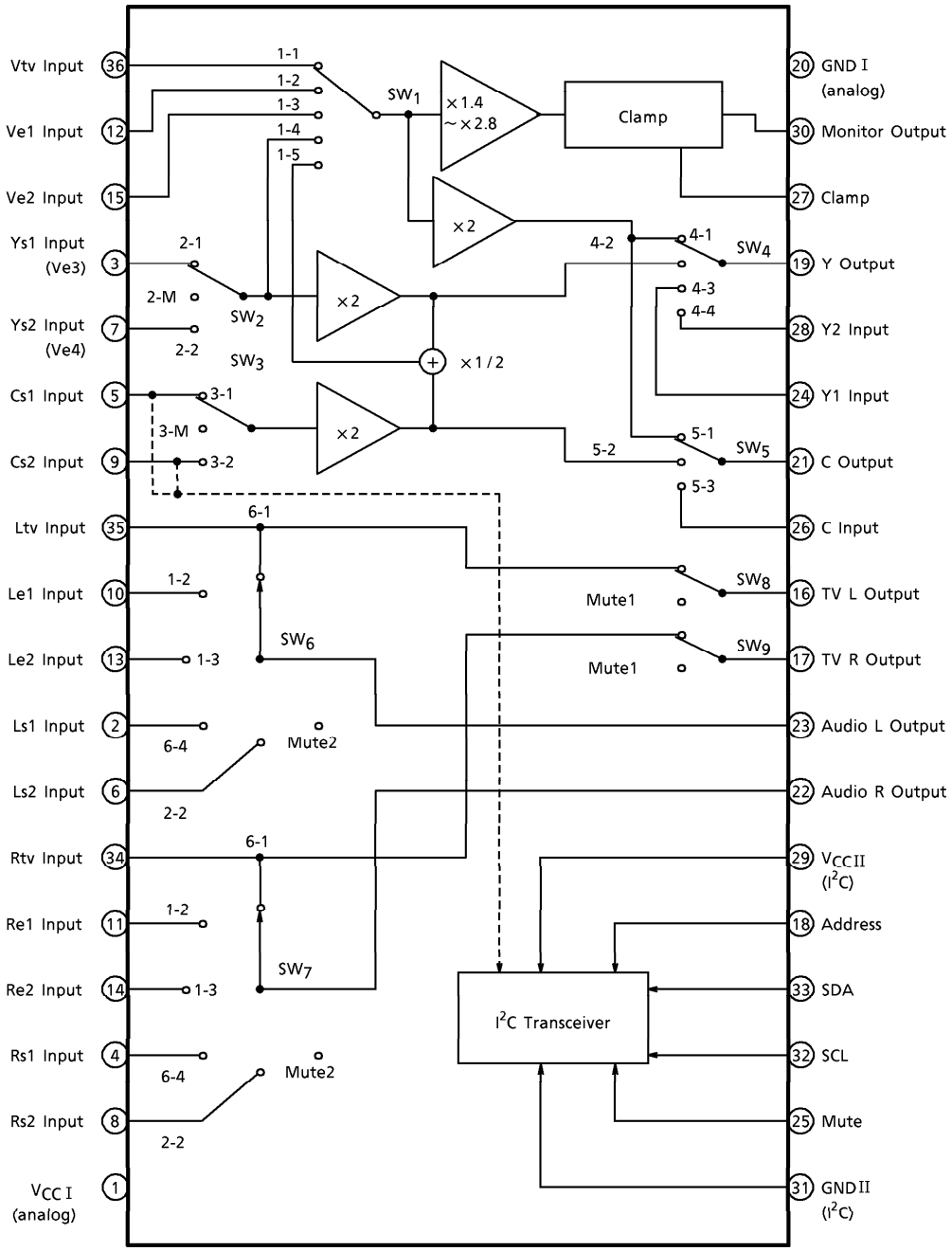
SDIP36-P-500-1.78

Weight : 2.98 g (Typ.)

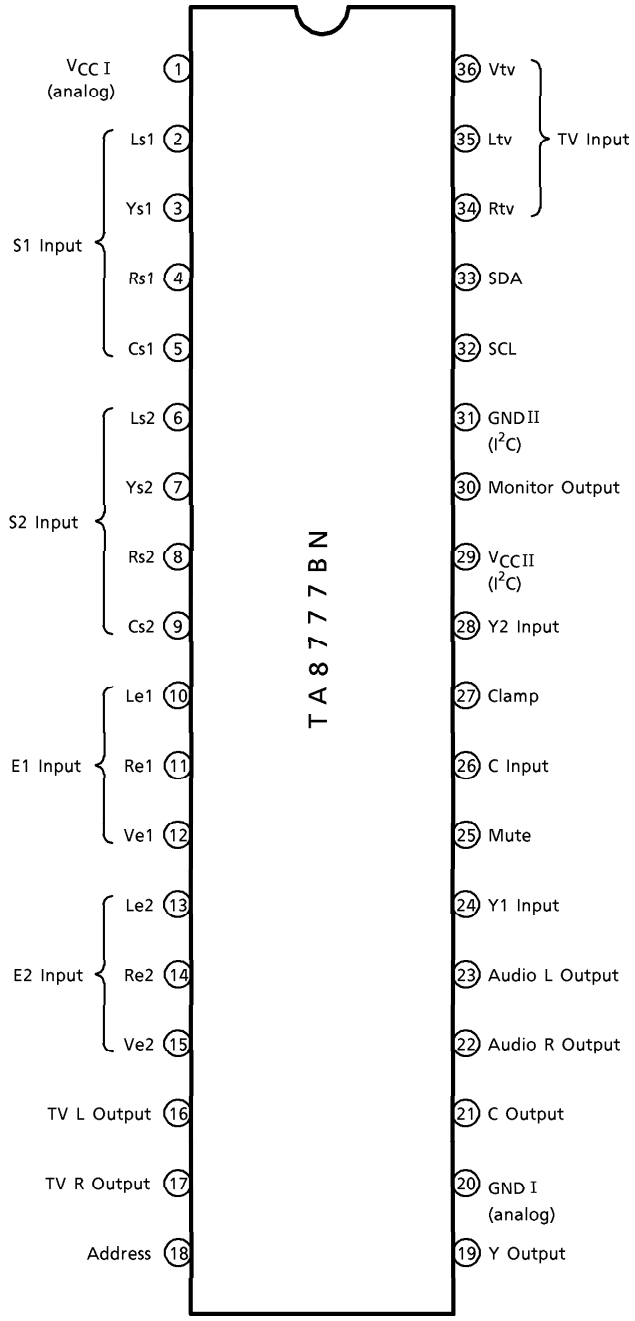
### FEATURES

- Audio Two circuits (L / R)
  - Inputs : 1-channel TV input
    4-channel external input
  - Outputs : L / R output
- Video One circuit
  - Inputs : 1-channel TV input
    4-channel external input
  - Outputs : Monitor output
    Y / C output
- Audio mute function
- Can be used with a comb filter.

## BLOCK DIAGRAM



## TERMINAL CONNECTION DIAGRAM



I²C Bus Slave Address

| Voltage on Pin (V) | Address |
|---|---|
| 0.0~1.5 | 10010000 |
| 1.5~4.5 | 10010110 |
| 4.5~7.5 | 10010100 |
| 7.5~9.0 | 10010010 |

Data Transfer Format

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S Slave Address | 0 | A | DATA Ⅰ | A | DATA Ⅱ | A | P | |

Bus Control Function

DATA Ⅰ

| Ⅰ B7 | Ⅰ B6 | Ⅰ B5 | Ⅰ B4 | Ⅰ B3 | Ⅰ B2 | Ⅰ B1 | Ⅰ B0 |
|---|---|---|---|---|---|---|---|

Preset to ( 00001111 ) when power-on

DATA Ⅱ

| — | — | — | Ⅱ B4 | Ⅱ B3 | Ⅱ B2 | Ⅱ B1 | Ⅱ B0 |
|---|---|---|---|---|---|---|---|

Preset to ( ※※※00011 ) when power-on
(※ = Don't care)

Mode Setting ( Ⅰ B7、Ⅰ B6、Ⅰ B5、Ⅰ B4 )

| Ⅰ B7 | Ⅰ B6 | Ⅰ B5 | Ⅰ B4 | Pin5 | Pin9 | Mode Setting |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | ※ | ※ | TV |
| 0 | 0 | 0 | 1 | ※ | ※ | E1 |
| 0 | 0 | 1 | 0 | ※ | ※ | E2 |
| 0 | 0 | 1 | 1 | ※ | ※ | E3 |
| 0 | 1 | 0 | 0 | ※ | ※ | E4 |
| 0 | 1 | 0 | 1 | L | ※ | E3 |
| | | | | Open | | S1 |
| 0 | 1 | 1 | 0 | ※ | L | E4 |
| | | | | | Open | S2 |
| 0 | 1 | 1 | 1 | ※ | ※ | TV1 |
| 1 | 0 | 0 | 0 | ※ | ※ | TV2 |
| 1 | 0 | 0 | 1 | ※ | ※ | TV |
| ≀ | | | | | | |
| 1 | 1 | 1 | 1 | | | |

Video Gain ( Ⅱ B2、Ⅱ B1、Ⅱ B0 )

| Ⅱ B2 | Ⅱ B1 | Ⅱ B0 | Gain |
|---|---|---|---|
| 0 | 0 | 0 | 2.9dB |
| 0 | 0 | 1 | 4.1dB |
| 0 | 1 | 0 | 5.1dB |
| 0 | 1 | 1 | 6.0dB |
| 1 | 0 | 0 | 6.8dB |
| 1 | 0 | 1 | 7.6dB |
| 1 | 1 | 0 | 8.3dB |
| 1 | 1 | 1 | 8.9dB |

(Note 1) : When Ⅰ B7~Ⅰ B4 are set for S1 Mode and S2 Mode, if a voltage not exceeding 1V is applied to the chrome input pin, the mode becomes E3 Mode and E4 Mode, respectively.

(Note 2) : When the values of Ⅰ B7~Ⅰ B4 are within 1001~1111, TV Mode will be selected.

(Note 3) : ※ = Don't care.

System Setting ( I B3· I B2 )

| I B3 | System Setting |
|---|---|
| 0 | 4.43MHz |
| 1 | 3.58MHz |

| I B2 | System Setting |
|---|---|
| 0 | Black and white |
| 1 | Color |

Comb Filter ( II B4 )

| II B4 | Comb Filter |
|---|---|
| 0 | × |
| 1 | ○ |

Mute On / Off ( I B1· I B0 )

| I B0 | Mute I |
|---|---|
| 0 | Off |
| 1 | On |

| I B1 | Mute II |
|---|---|
| 0 | Off |
| 1 | On |

Modes and Outputs

| Mode | II B3 | Switch Select | Monitor Output | Y Output | C Output | L Output | R Output |
|---|---|---|---|---|---|---|---|
| TV | 0 | 1-1, 2-M, 3-M, 6-1 | Vtv | See No.1 (on next page.) | | Ltv | Rtv |
| | 1 | 1-1, 2-M, 3-M, 6-4 | | | | Ls1 | Rs1 |
| E1 | ※ | 1-2, 2-M, 3-M | Ve1 | | | Le1 | Re1 |
| E2 | ※ | 1-3, 2-M, 3-M | Ve2 | | | Le2 | Re2 |
| E3 | ※ | 1-4, 2-1, 3-M, 6-4 | Ys1 | | | Ls1 | Rs1 |
| E4 | ※ | 1-4, 2-2, 3-M | Ys2 | | | Ls2 | Rs2 |
| S1 | ※ | 1-5, 2-1, 3-1, 4-2, 5-2, 6-4 | Ys1 + Cs1 | Ys1 | Cs1 | Ls1 | Rs1 |
| S2 | ※ | 1-5, 2-2, 3-2, 4-2, 5-2 | Ys2 + Cs2 | Ys2 | Cs2 | Ls2 | Rs2 |
| TV1 | 0 | 1-4, 2-1, 3-1, 6-4 | Ys1 | See No.2 (on next page.) | | Ls1 | Rs1 |
| | 1 | 1-4, 2-1, 3-1, 6-1 | | | | Ltv | Rtv |
| TV2 | ※ | 1-4, 2-2, 3-2 | Ys2 | | | Ls2 | Rs2 |

(Note) : ※ = Don't care.

No.1

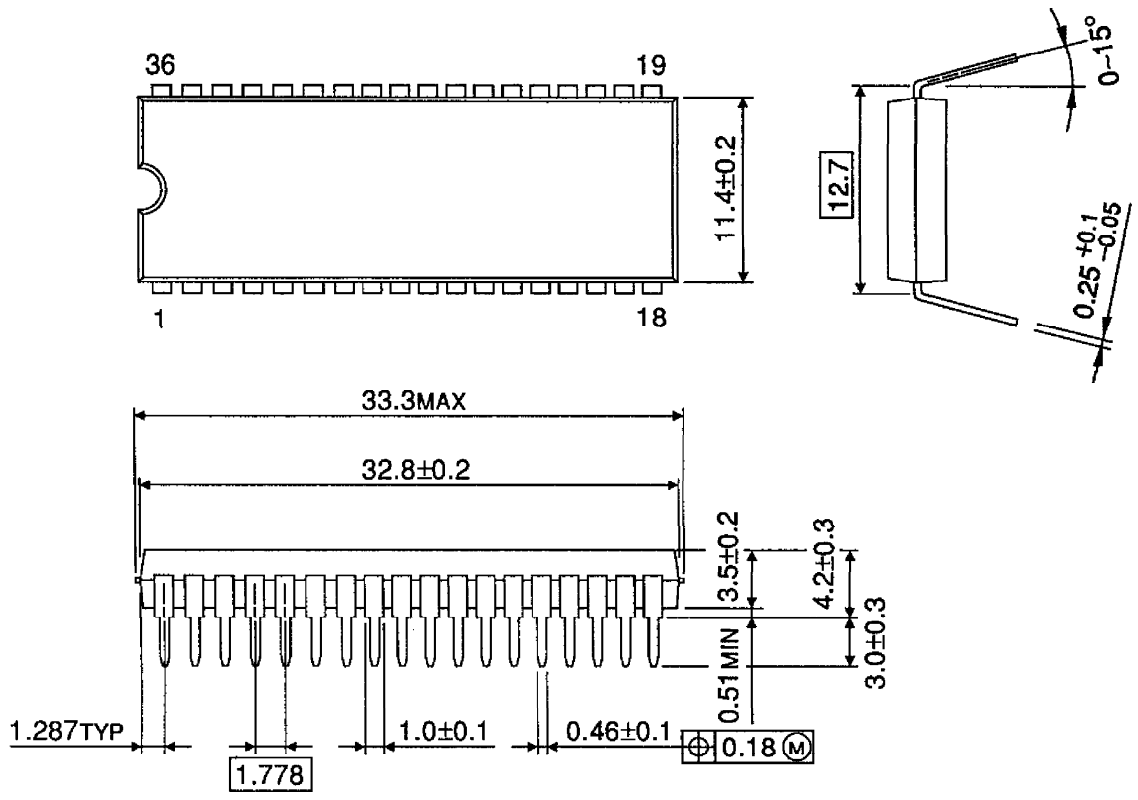
| I B3 | I B2 | II B4 | Switch Select | Y Output | | | | | C Output | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TV | E1 | E2 | E3 | E4 | TV | E1 | E2 | E3 | E4 |
| 0 | 0 | 0 | 4-1, 5-1 | Vtv | Ve1 | Ve2 | Ys1 | Ys2 | Vtv | Ve1 | Ve2 | Ys1 | Ys2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | | | | C Input | | | | |
| | 1 | 0 | 4-4, 5-1 | Y2 Input | | | | | Vtv | Ve1 | Ve2 | Ys1 | Ys2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | | | | C Input | | | | |
| 1 | 0 | 0 | 4-1, 5-1 | Vtv | Ve1 | Ve2 | Ys1 | Ys2 | Vtv | Ve1 | Ve2 | Ys1 | Ys2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | | | | C Input | | | | |
| | 1 | 0 | 4-4, 5-1 | Y1 Input | | | | | Vtv | Ve1 | Ve2 | Ys1 | Ys2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | | | | C Input | | | | |

No.2

| I B3 | I B2 | II B4 | Swutch Select | Y Output | | C Output | |
|---|---|---|---|---|---|---|---|
| | | | | TV1 | TV2 | TV1 | TV2 |
| 0 | 0 | 0 | 4-2, 5-2 | Ys1 | Ys2 | Cs1 | Cs2 |
| | | 1 | 4-2, 5-2 | Ys1 | Ys2 | Cs1 | Cs2 |
| | 1 | 0 | 4-4, 5-2 | Y2 Input | | Cs1 | Cs2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | C Input | |
| 1 | 0 | 0 | 4-2, 5-2 | Ys1 | Ys2 | Cs1 | Cs2 |
| | | 1 | 4-2, 5-2 | Ys1 | Ys2 | Cs1 | Cs2 |
| | 1 | 0 | 4-4, 5-2 | Y1 Input | | Cs1 | Cs2 |
| | | 1 | 4-3, 5-3 | Y1 Input | | C Input | |

**PACKAGE DIMENSIONS**

SDIP36-P-500-1.78 Unit : mm




Weight : 2.98 g (Typ.)

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