

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

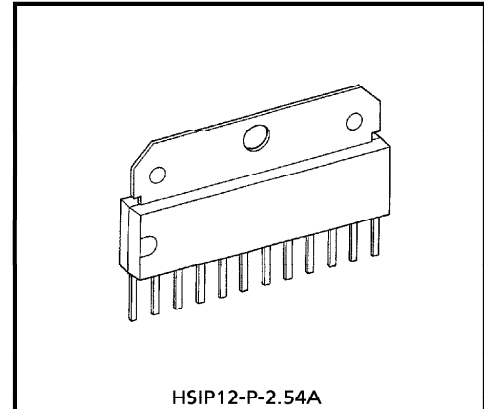
# TA8445K

## POWER AMPLIFIER FOR DRIVING A DEFLECTION CIRCUIT OF A COLOR TELEVISION

The TA8445K is a power amplifier for driving a deflection circuit of a middle and large screen size color television. The TA8445K combines the vertical output circuit and the Ramp-generator in a 12-pin shrink DIP plastic package. The TA8445K requires only vertical deflection positive pulse for vertical operation.

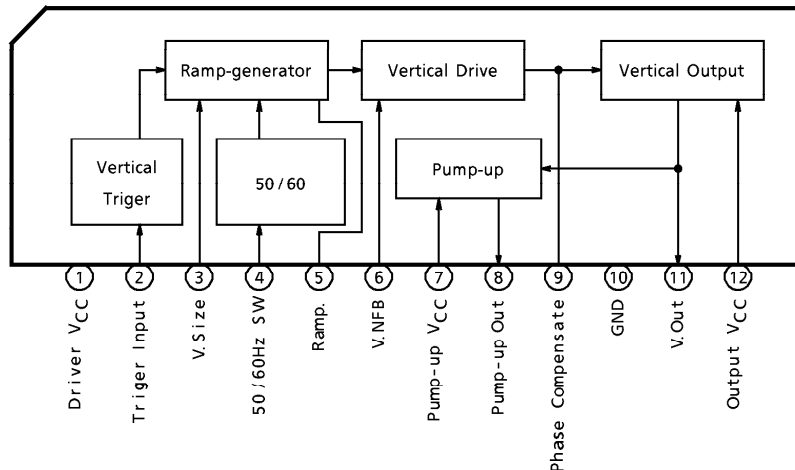
### FEATURES

- Large output current : 2.2A<sub>p-p</sub> (MAX.)
- Built-in Ramp-generator circuit
- Built-in V.Driver circuit
- 50/60Hz sw circuit
- Small power dissipation with a pump-up circuit
- Vertical output circuit
- Small number external parts



Weight : 3.2g (Typ.)

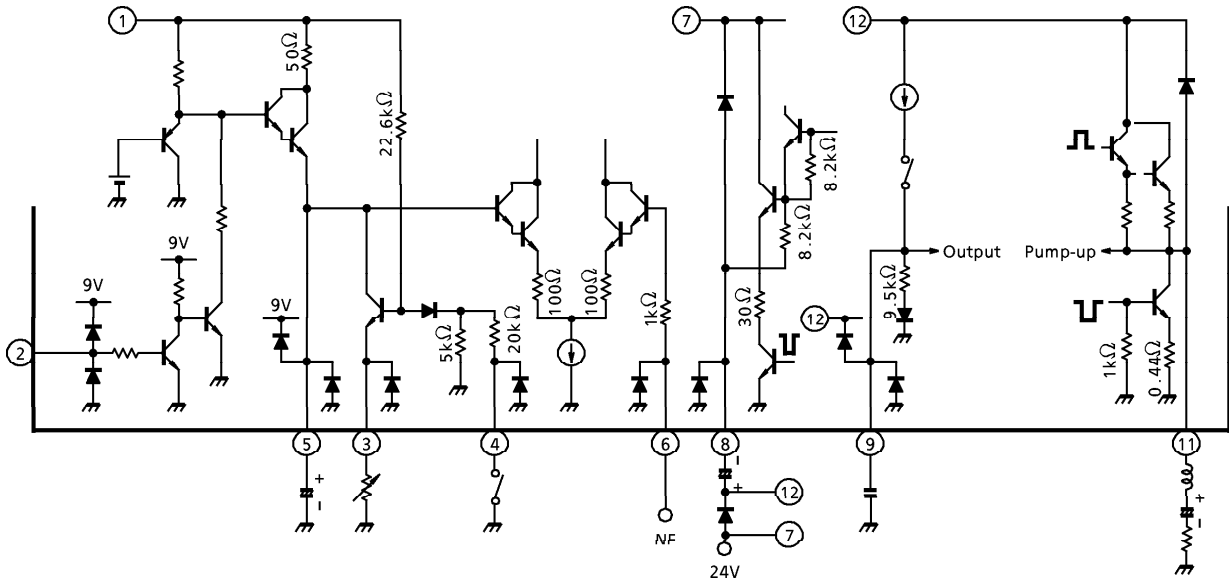
### BLOCK DIAGRAM



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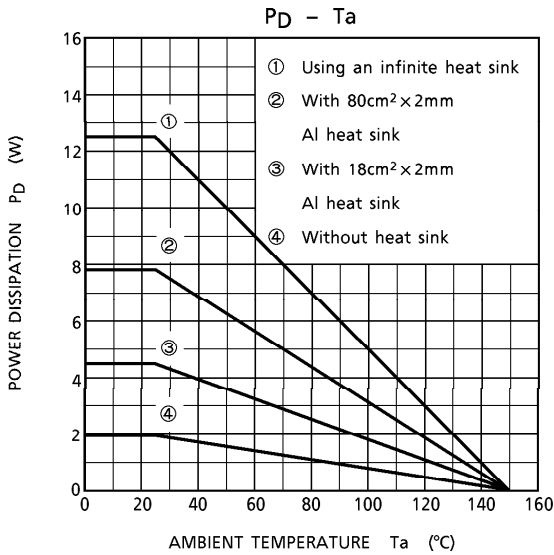
TERMINAL INTERFACE



MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC                 | SYMBOL             | RATING      | UNIT |
|--------------------------------|--------------------|-------------|------|
| V.Driver Power Supply          | V <sub>CC</sub>    | 15          | V    |
| Pump-up Power Supply Voltage   | V <sub>CC</sub>    | 30          | V    |
| Vertical Output Supply Voltage | V <sub>CC</sub>    | 60          | V    |
| Power Dissipation              | P <sub>D max</sub> | 12.5 (Note) | W    |
| Operating Temperature          | T <sub>opr</sub>   | - 20~85     | °C   |
| Storage Temperature            | T <sub>stg</sub>   | - 55~150    | °C   |

(Note) Using an infinite heat sink.



**RECOMMENDED OPERATING CONDITION (Ta = 25°C)**

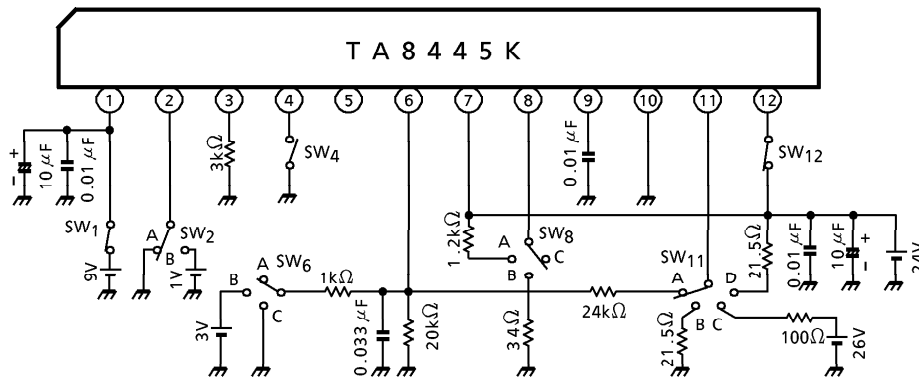
| CHARACTERISTIC            | SYMBOL             | MIN. | TYP. | MAX. | UNIT             |
|---------------------------|--------------------|------|------|------|------------------|
| V.Driver Supply Voltage   | V <sub>CC1</sub>   | 8.1  | 9.0  | 9.9  | V                |
| Pump-up Supply Voltage    | V <sub>CC2</sub>   | —    | 24   | 29   | V                |
| Deflection Output Current | I <sub>11p-p</sub> | —    | —    | 2.2  | A <sub>p-p</sub> |

**ELECTRICAL CHARACTERISTICS (Ta = 25°C, V<sub>CC1</sub> = 9V, V<sub>CC2</sub> = 24V)**

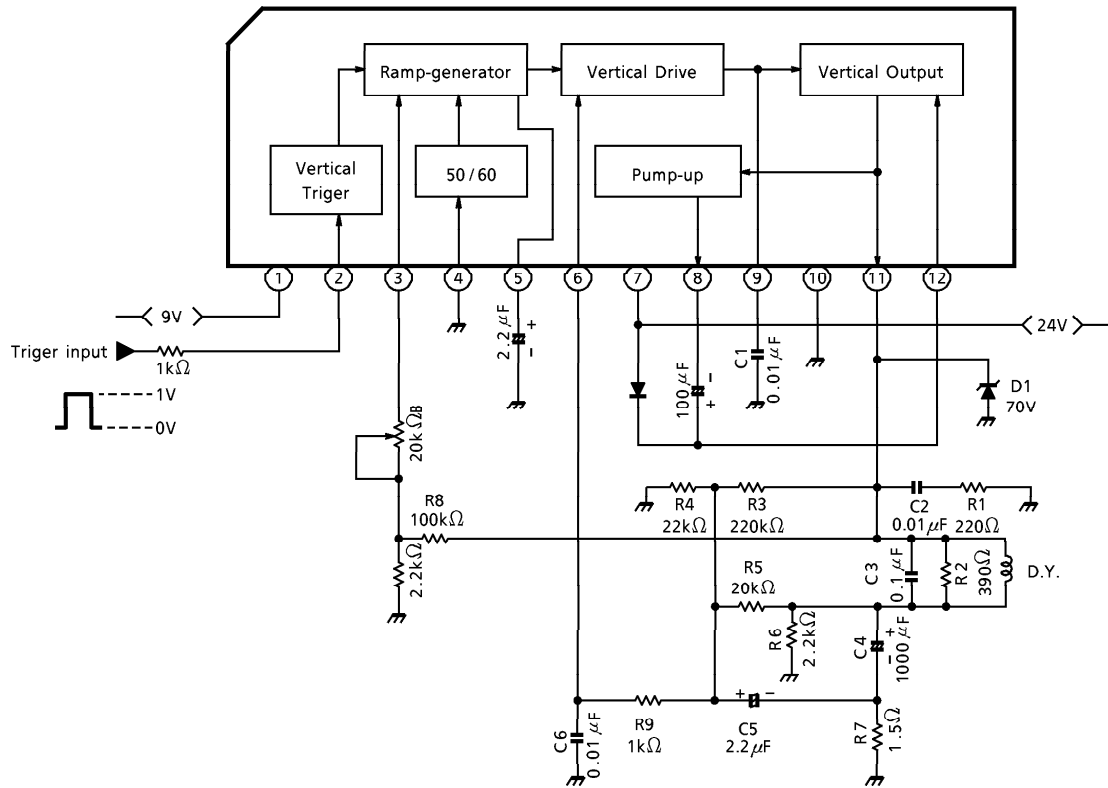
| CHARACTERISTIC                        | SYMBOL                       | TEST CIR-CUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT             |
|---------------------------------------|------------------------------|---------------|----------------|------|------|------|------------------|
| V.Driver Supply Current               | I <sub>CC1</sub>             | —             | 1              | 2.0  | 5.0  | 12   | mA               |
| Vertical Triger Threshold Voltage     | V <sub>2</sub>               | —             | 2              | —    | —    | 1.0  | V                |
| Vertical Amplitude Cont. Voltage (1)  | V <sub>3</sub> <sup>60</sup> | —             | 3              | 1.0  | 1.5  | 2.0  | V                |
| Vertical Amplitude Cont. Voltage (2)  | V <sub>3</sub> <sup>50</sup> | —             | 11             | 0.75 | 1.25 | 1.75 | V                |
| Ramp-signal Maximum Voltage           | V <sub>5</sub>               | —             | 4              | 3.5  | 4.8  | 6.0  | V                |
| Ramp-signal Maximum Amplitude         | V <sub>5p-p</sub>            | —             | 4              | 3.5  | 4.5  | 5.5  | V <sub>p-p</sub> |
| Output Triger Satulation Voltage (1)  | V <sub>S11-10</sub>          | —             | 5              | 0.3  | 0.5  | 1.0  | V                |
| Output Triger Satulation Voltage (2)  | V <sub>S12-11</sub>          | —             | 6              | 1.0  | 1.8  | 3.6  | V                |
| Pump-up Triger Satulation Voltage (1) | V <sub>S7-8</sub>            | —             | 7              | 1.0  | 2.0  | 3.0  | V                |
| Pump-up Triger Satulation Voltage (2) | V <sub>S8-10</sub>           | —             | 8              | 0.2  | 0.8  | 1.6  | V                |
| Idling Current                        | I <sub>b</sub>               | —             | 9              | —    | 26   | —    | mA               |
| Vertical Output Center Voltage        | V <sub>CENTER</sub>          | —             | 10             | 8.0  | 12.0 | 14.0 | V                |

| NOTE | SW MODE |   |     |   |   |    |     | TEST TERMINAL |
|------|---------|---|-----|---|---|----|-----|---------------|
|      | 1       | 2 | 4   | 6 | 8 | 11 | 12  |               |
| 1    | ON      | A | OFF | A | C | A  | ON  | 1             |
| 2    | ON      | B | OFF | A | C | A  | ON  | 5             |
| 3    | ON      | A | OFF | A | C | A  | ON  | 3             |
| 4    | ON      | A | OFF | A | C | A  | ON  | 5             |
| 5    | ON      | B | OFF | B | C | D  | ON  | 11            |
| 6    | OFF     | A | OFF | C | C | B  | ON  | 11 - 12       |
| 7    | OFF     | A | OFF | A | B | C  | OFF | 7 - 8         |
| 8    | OFF     | A | OFF | A | A | A  | OFF | 8             |
| 9    | ON      | A | OFF | A | C | A  | ON  | 12            |
| 10   | ON      | A | OFF | A | C | A  | ON  | 11            |
| 11   | ON      | A | ON  | A | C | A  | ON  | 3             |

TEST CIRCUIT

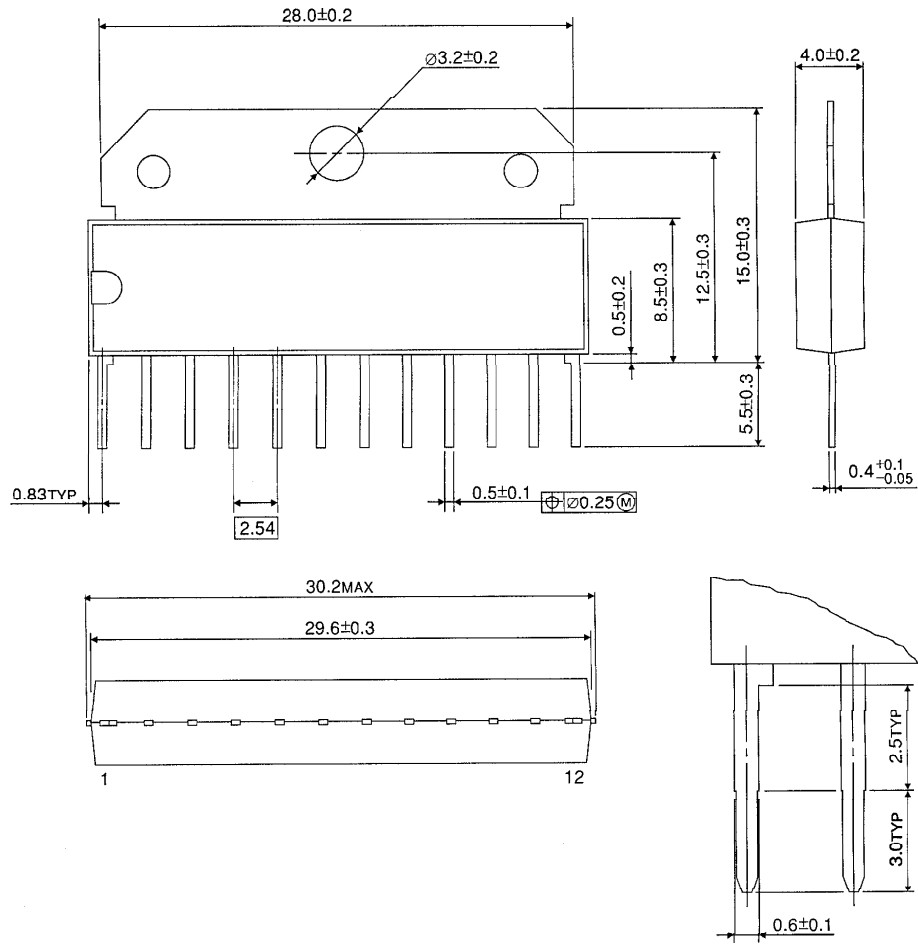


APPLICATION CIRCUIT



OUTLINE DRAWING  
HSIP12-P-2.54A

Unit : mm



Weight : 3.2g (Typ.)