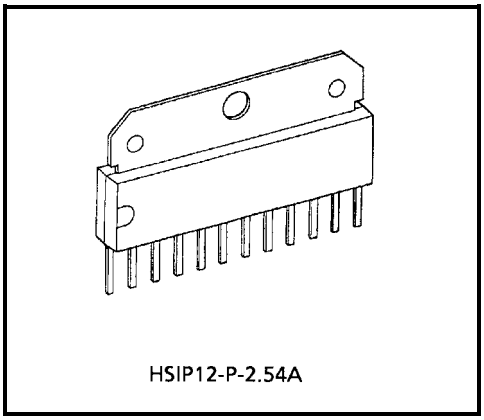
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# 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.

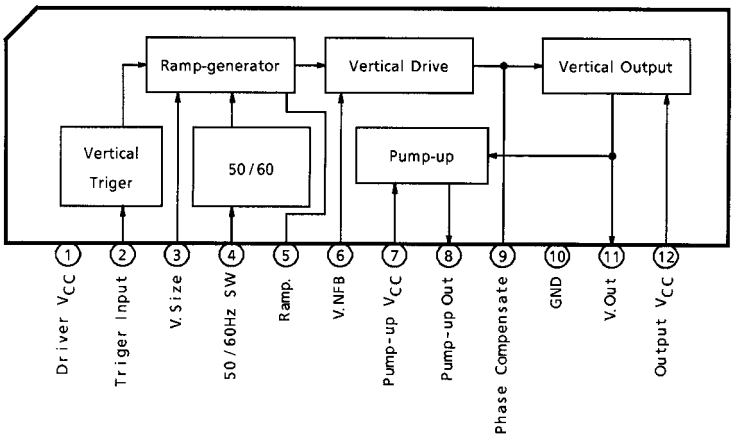



Weight: 3.2g(Typ.)

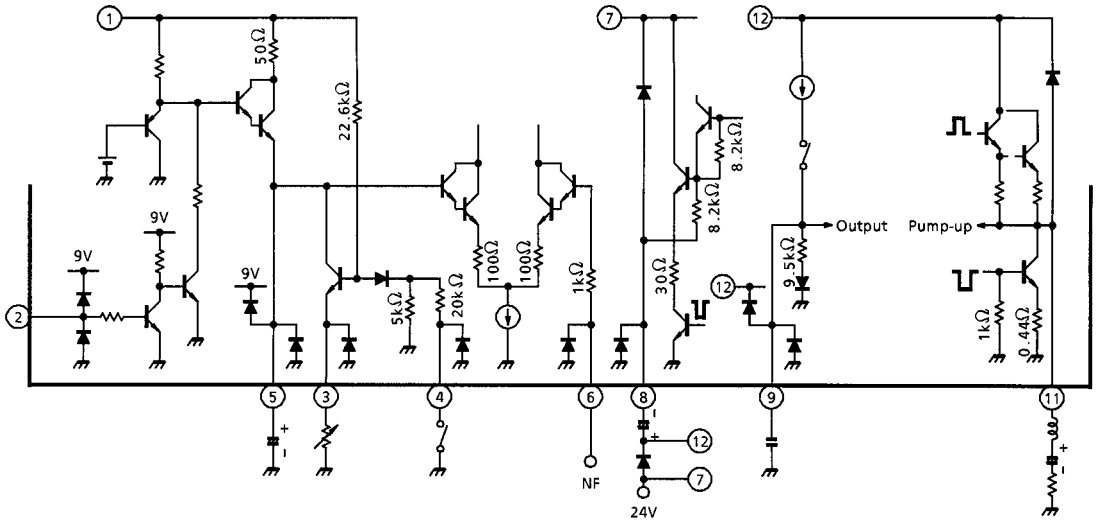
## FEATURES

- Large output current : 2.2Ap-p (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

## BLOCK DIAGRAM



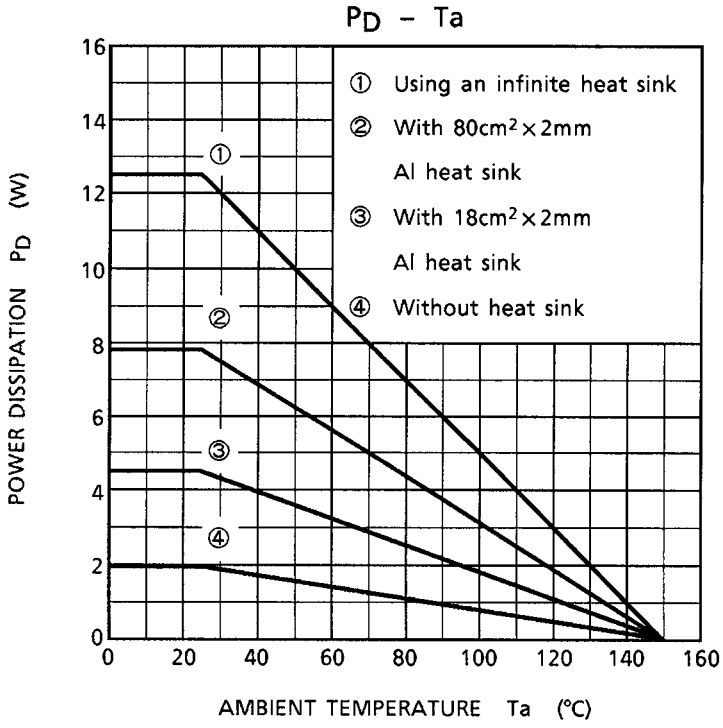
## TERMINAL INTERFACE




## MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| V.Driver Power Supply | $V_{CC}$ | 15 | V |
| Pump-up Power Supply Voltage | $V_{CC}$ | 30 | V |
| Vertical Output Supply Voltage | $V_{CC}$ | 60 | V |
| Power Dissipation | $P_{D\ max}$ | 12.5 (Note) | W |
| Operating Temperature | $T_{opr}$ | −20 ~ 85 | °C |
| Storage Temperature | $T_{stg}$ | −55 ~ 150 | °C |

Note: Using an infinite heat sink.



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

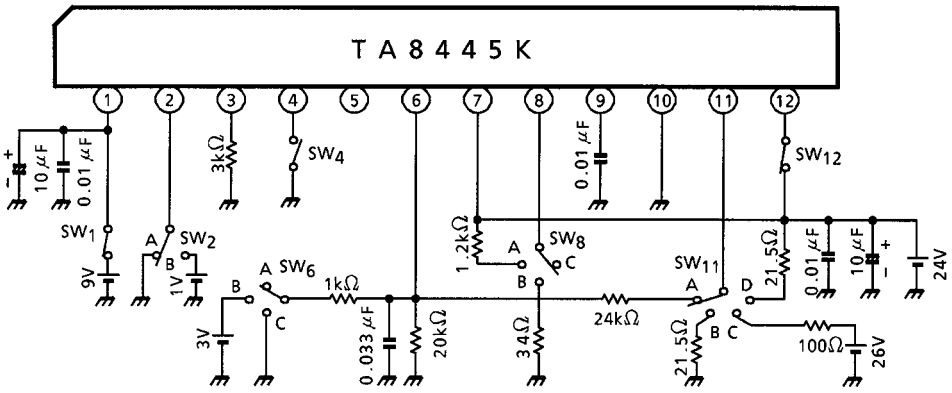
| CHARACTERISTIC | SYMBOL | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|
| V.Driver Supply Voltage | $V_{CC1}$ | 8.1 | 9.0 | 9.9 | V |
| Pump-up Supply Voltage | $V_{CC2}$ | — | 24 | 29 | V |
| Deflection Output Current | $I_{11p-p}$ | — | — | 2.2 | $A_{p-p}$ |

## ELECTRICAL CHARACTERISTICS (Ta = 25°C, $V_{CC1}$ = 9V, $V_{CC2}$ = 24V)

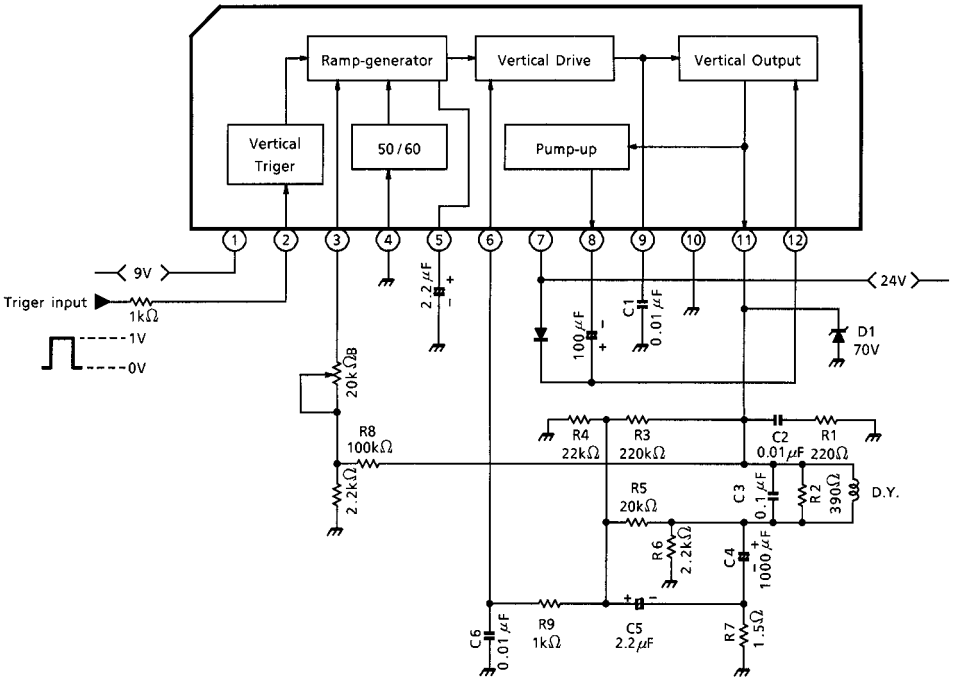
| CHARACTERISTIC | SYMBOL | TEST CIR-CUIT | TEST CONDITION | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| V.Driver Supply Current | $I_{CC1}$ | — | (Note 1) | 2.0 | 5.0 | 12 | mA |
| Vertical Triger Threshold Voltage | $V_2$ | — | (Note 2) | — | — | 1.0 | V |
| Vertical Amplitude Cont. Voltage (1) | $V_3^{60}$ | — | (Note 3) | 1.0 | 1.5 | 2.0 | V |
| Vertical Amplitude Cont. Voltage (2) | $V_3^{50}$ | — | (Note 11) | 0.75 | 1.25 | 1.75 | V |
| Ramp-signal Maximum Voltage | $V_5$ | — | (Note 4) | 3.5 | 4.8 | 6.0 | V |
| Ramp-signal Maximum Amplitude | $V_{5p-p}$ | — | (Note 4) | 3.5 | 4.5 | 5.5 | $V_{p-p}$ |
| Output Triger Satulation Voltage (1) | $V_{S11-10}$ | — | (Note 5) | 0.3 | 0.5 | 1.0 | V |
| Output Triger Satulation Voltage (2) | $V_{S12-11}$ | — | (Note 6) | 1.0 | 1.8 | 3.6 | V |
| Pump-up Triger Satulation Voltage (1) | $V_{S7-8}$ | — | (Note 7) | 1.0 | 2.0 | 3.0 | V |
| Pump-up Triger Satulation Voltage (2) | $V_{S8-10}$ | — | (Note 8) | 0.2 | 0.8 | 1.6 | V |
| Idling Current | $I_b$ | — | (Note 9) | — | 26 | — | mA |
| Vertical Output Center Voltage | $V_{CENTER}$ | — | (Note 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

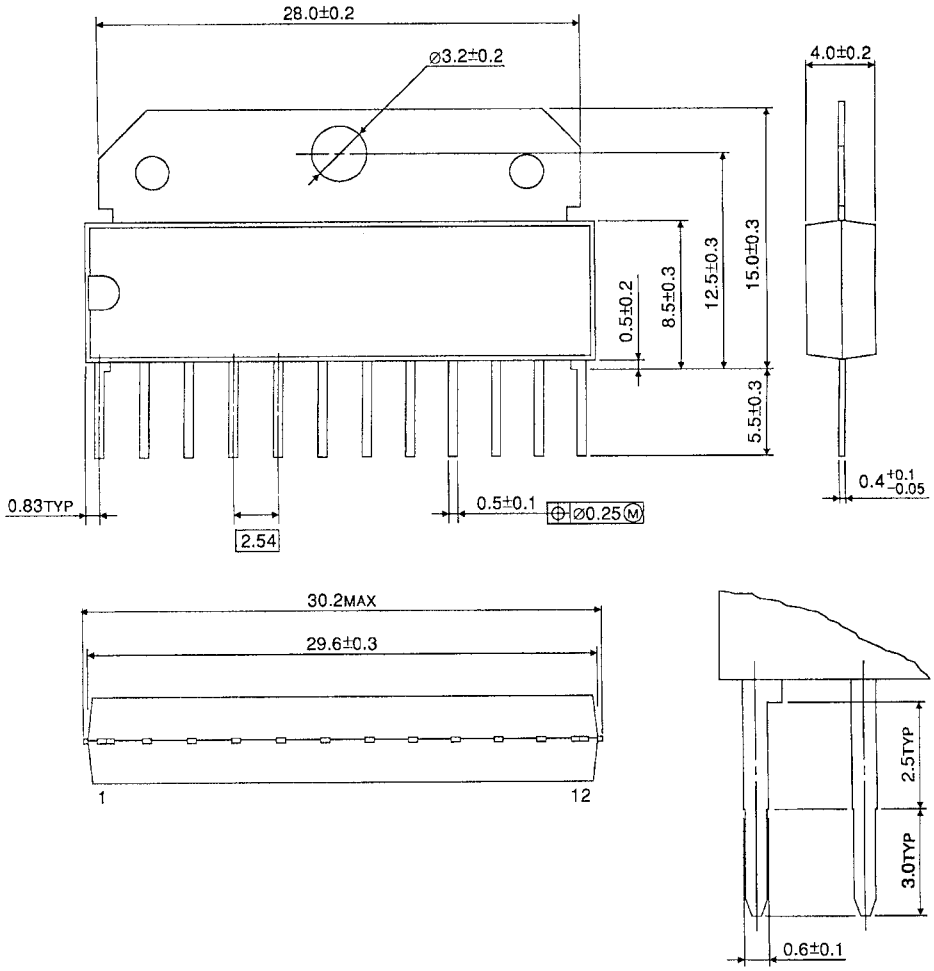


## APPLICATION CIRCUIT



## PACKAGE DIMENSIONS

HSIP12-P-2.54A Unit : mm




Weight: 3.2g (Typ.)

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000707EBA

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