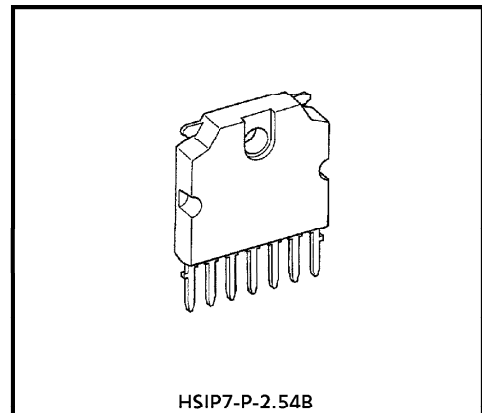


TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA8403K

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

TA8403K is a power amplifier for driving a vertical deflection circuit of a small and medium screen size color television. TA8403K is available for constructing a stable deflection circuit with small number parts in an application with a single chip signal processing IC TA8879N.

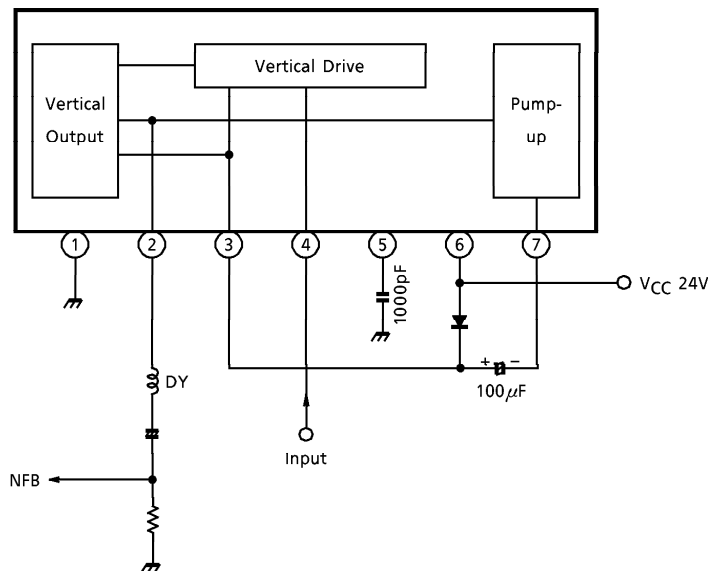


Weight : 0.7g (Typ.)

### FEATURES

- Large output current : 1.8Ap-p (Max.)
- Small power dissipation with a pump-up circuit
- Small number external parts

### BLOCK DIAGRAM



### TERMINAL NAME

1. GND
2. Vertical Output
3. Pump-up Power Supply
4. Input
5. Phase Compensation
6. Power Supply
7. Pump-up Output

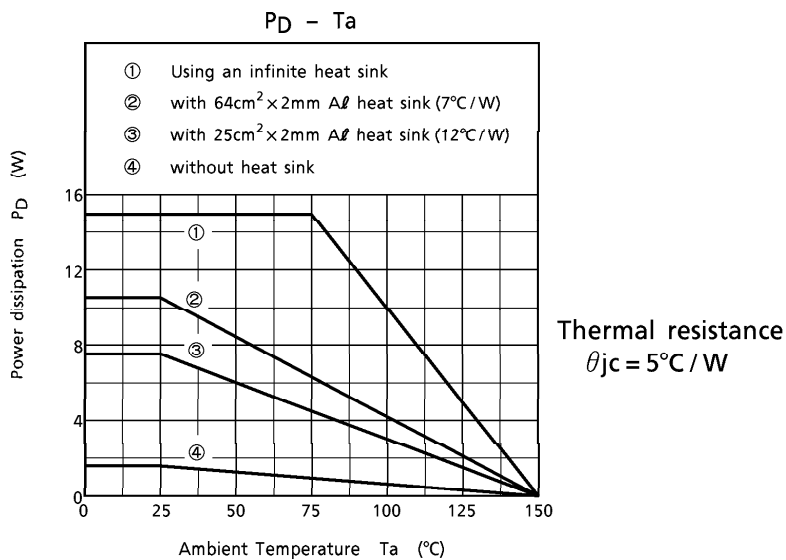
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**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V <sub>CC</sub>	30	V
Pump-up Power Supply Voltage	V <sub>Vt</sub>	60	V
Terminal Voltage	E <sub>in</sub>	GND - 0.3 ~ V <sub>Vt</sub> + 0.3	V
Input Signal Voltage	e <sub>in</sub>	0 ~ 1.2	V
Power Dissipation	P <sub>D</sub>	15 (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**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Power Supply	V <sub>CC</sub>	—	24	27	V
Deflection Output Current	I <sub>2p-p</sub>	—	—	1.8	A <sub>p-p</sub>

**ELECTRICAL CHARACTERISTICS** (Ta = 25°C, VCC = 24V)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Saturation Voltage of the Vertical Output Transistor (1)	$V_V (sat) 1$	1	(Note 1)	0.3	0.5	1.0	V
Saturation Voltage of the Vertical Output Transistor (2)	$V_V (sat) 2$	1	(Note 2)	1.0	1.8	3.6	V
Saturation Voltage of the Pump-up Output Transistor (1)	$V_P (sat) 1$	1	(Note 3)	1.0	2.0	3.0	V
Saturation Voltage of the Pump-up Output Transistor (2)	$V_P (sat) 2$	1	(Note 4)	0.3	0.8	1.6	V
Output Current with no input	$I_b$	1	(Note 5)	10.0	15.0	30.0	mA
Center Output Voltage	$V_{center}$			10.0	12.0	14.0	V

(Note 1) SW<sub>1</sub> : ON, SW<sub>2</sub> : C, SW<sub>3</sub> : ON, SW<sub>4</sub> : B, SW<sub>5</sub> : A, SW<sub>6</sub> : A  
 Measure the voltage of pin2.

(Note 2) SW<sub>1</sub> : ON, SW<sub>2</sub> : C, SW<sub>3</sub> : ON, SW<sub>4</sub> : A, SW<sub>5</sub> : A, SW<sub>6</sub> : B  
 Measure the voltage of pin2, V<sub>2</sub>.  $V_V (sat) 2 = V_{CC} - V_2$

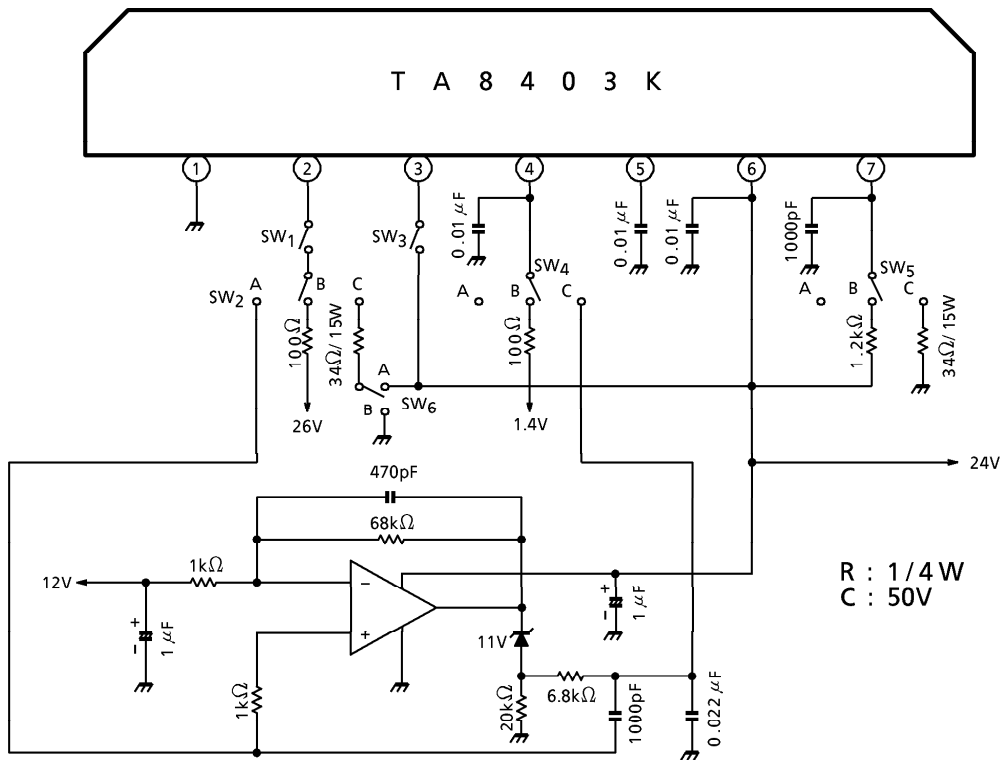
(Note 3) SW<sub>1</sub> : ON, SW<sub>2</sub> : B, SW<sub>3</sub> : OFF, SW<sub>4</sub> : A, SW<sub>5</sub> : C, SW<sub>6</sub> : A  
 Measure the voltage of pin7, V<sub>7</sub>.  $V_P (sat) 1 = V_{CC} - V_7$

(Note 4) SW<sub>1</sub> : OFF, SW<sub>2</sub> : C, SW<sub>3</sub> : OFF, SW<sub>4</sub> : A, SW<sub>5</sub> : B, SW<sub>6</sub> : B  
 Measure the voltage of pin7.

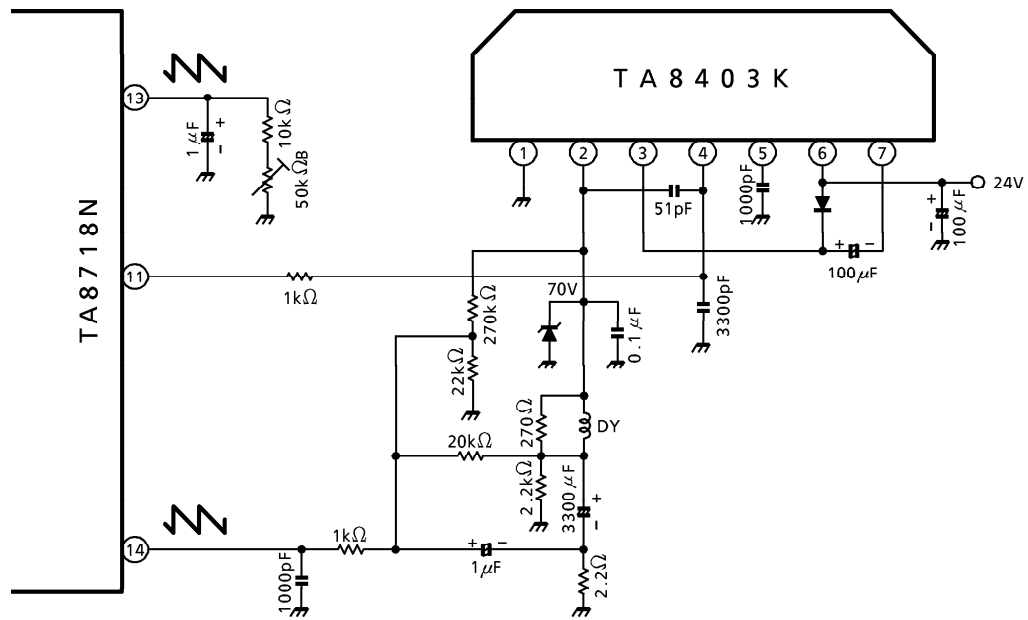
(Note 5) SW<sub>1</sub> : ON, SW<sub>2</sub> : A, SW<sub>3</sub> : ON, SW<sub>4</sub> : C, SW<sub>5</sub> : A, SW<sub>6</sub> : B  
 Measure the sink current into pin3.  
 Measure the voltage of pin2.

(Note 6) TA8403K is checked its output wave form in a real operating circuit.

TEST CIRCUIT 1

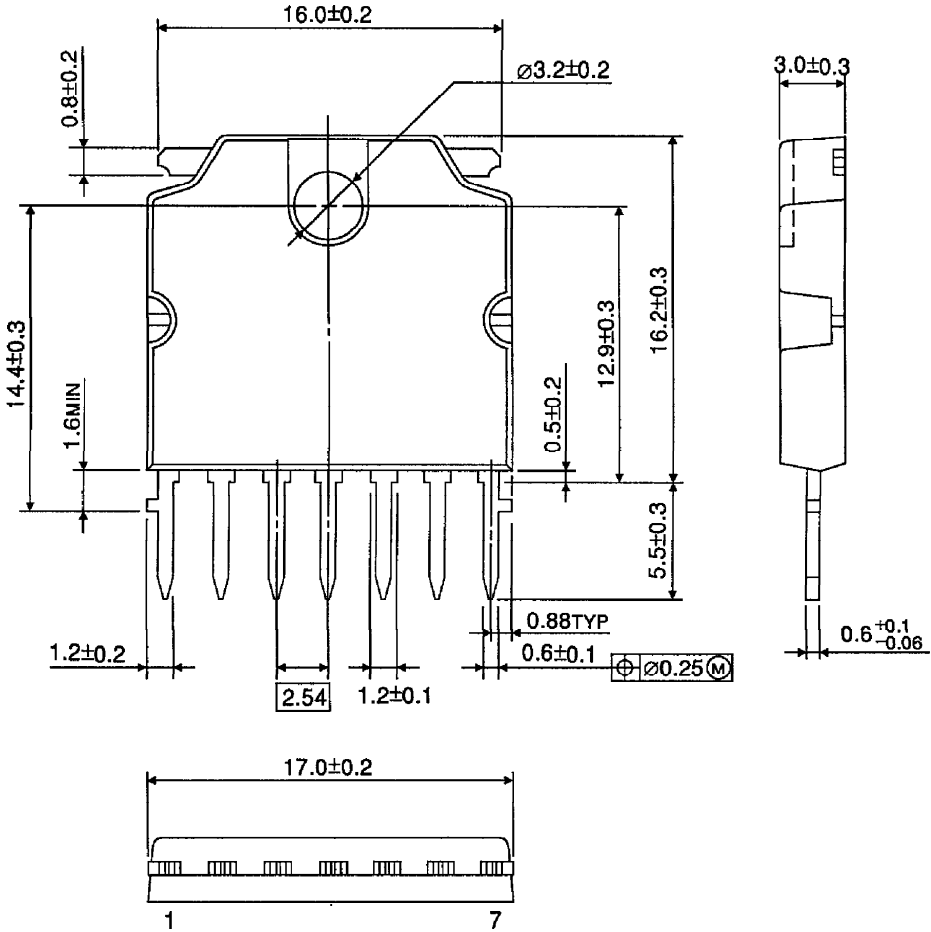


APPLICATION EXAMPLE CIRCUIT



OUTLINE DRAWING  
HSIP7-P-2.54B

Unit : mm



Weight : 0.7g (Typ.)