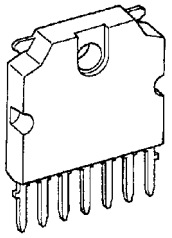
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8427K

POWER AMPLIFIER FOR DRIVING A DEFLECTION CIRCUIT OF A COLOR TELEVISION

TA8427K is a power amplifier for driving a deflection circuit of a large and medium screen size color television. TA8427K is available for constructing a stable deflection circuit with small number parts in an application with a single chip signal processing IC TA8879N.



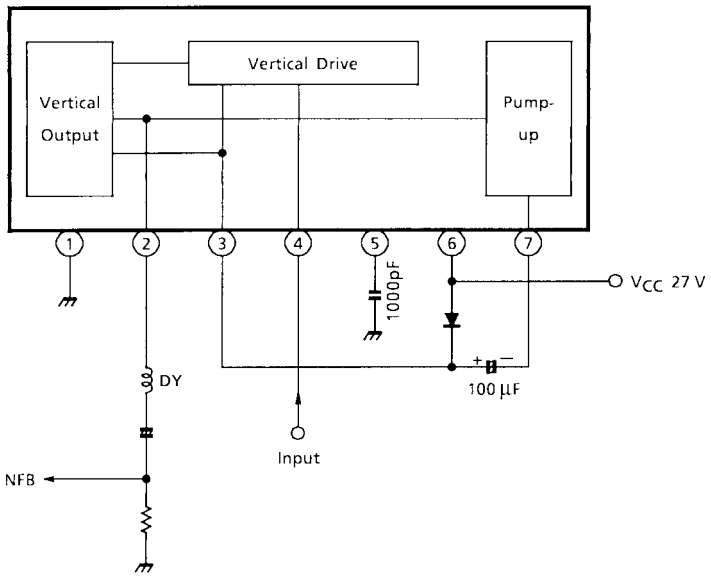
HSIP7-P-2.54B

Weight : 2.2g (Typ.)

FEATURES

- Large output current ; $2.2A_{p\text{-}p}$ (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

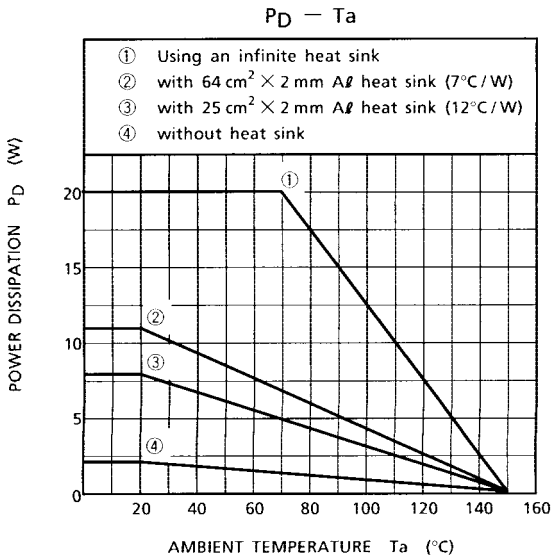
000707EBA2

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V_{CC}	30	V
Pump-up Power Supply Voltage	V_{Vt}	60	V
Terminal Voltage	E_{in}	GND −0.3 ~ V_{Vt} +0.3	V
Input Signal Voltage	e_{in}	0 ~ 1.2	V
Deflection Current	id	±1.5 (Note 1:)	A
Power Dissipation	P_D	20 (Note 2:)	W
Operating Temperature	T_{opr}	−20 ~ 85	°C
Storage Temperature	T_{stg}	−55 ~ 150	°C

Note 1: Power on time ; 2ms, V_{CEO} = 60V

Note 2: Using an infinite heat sink



Thermal resistance
θ_{jc} = 4°C / W

RECOMMENDED OPERATING CONDITION

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Power Supply	V_{CC}	—	27	29	V
Deflection Output Current	I_{2p-p}	—	—	2.2	A_{p-p}

ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 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:	0.2	0.8	1.6	V
Output Current With No Input	I_b	1	Note 5:	—	26.0	—	mA
Center Output Voltage	V_{center}			10.0	12.0	14.0	V

Note 1: SW_1 : ON, SW_2 : C, SW_3 : ON, SW_4 : B, SW_5: A, SW_6 : A
Measure the voltage of pin 2.

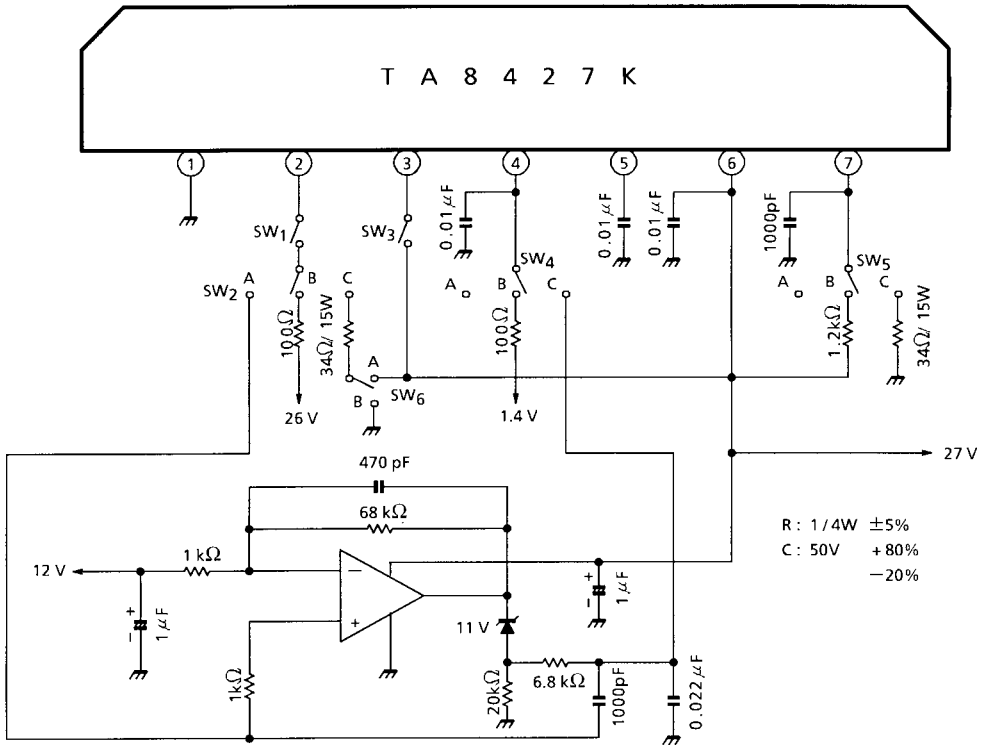
Note 2: SW_1 : ON, SW_2 : C, SW_3 : ON, SW_4 : A, SW_5 : A, SW_6 : B
Measure the voltage of pin 2, V_2. $V_{V\ (sat)\ 2} = V_{CC} - V_2$

Note 3: SW_1 : ON, SW_2 : B, SW_3 : OFF, SW4 : A, SW_5 : C, SW_6 : A
Measure the voltage of pin 7, V_7. $V_{P\ (sat)\ 1} = V_{CC} - V_7$

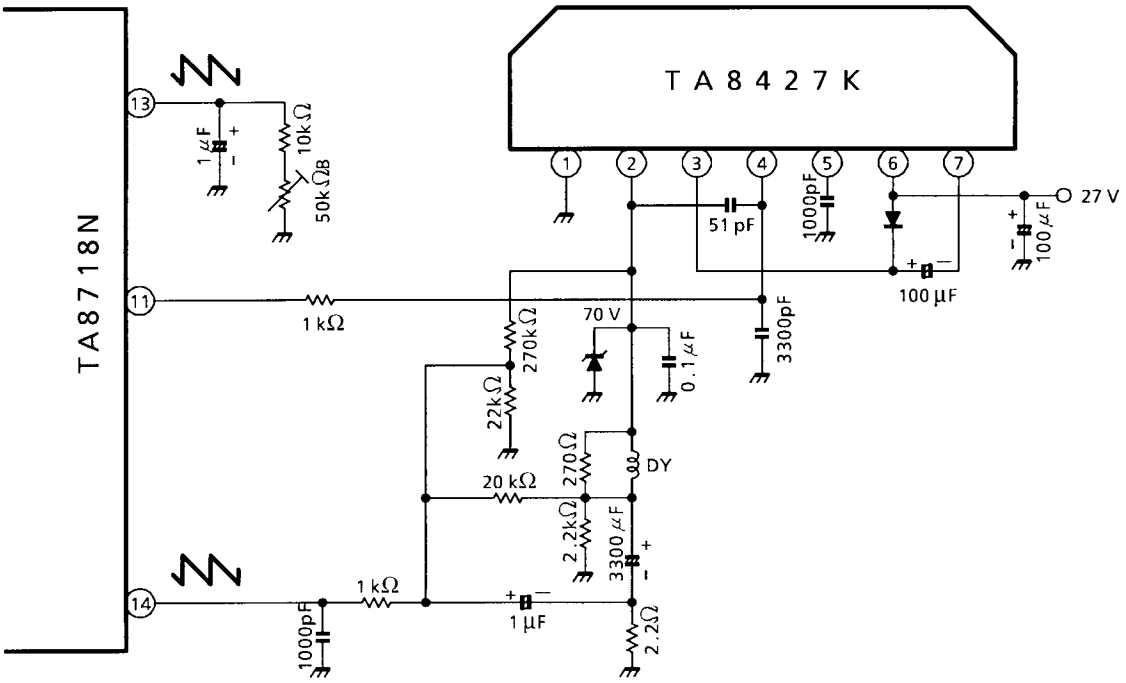
Note 4: SW_1 : OFF, SW_2 : C, SW_3 : OFF, SW_4 : A, SW_5 : B, SW_6 : B
Measure the voltage of pin 7.

Note 5: SW_1 : ON, SW_2 : A, SW_3 : ON, SW_4 : C, SW_5 : A, SW_6 : B
Measure the sink current into pin 3.
Measure the voltage of pin 2.

TEST CIRCUIT 1

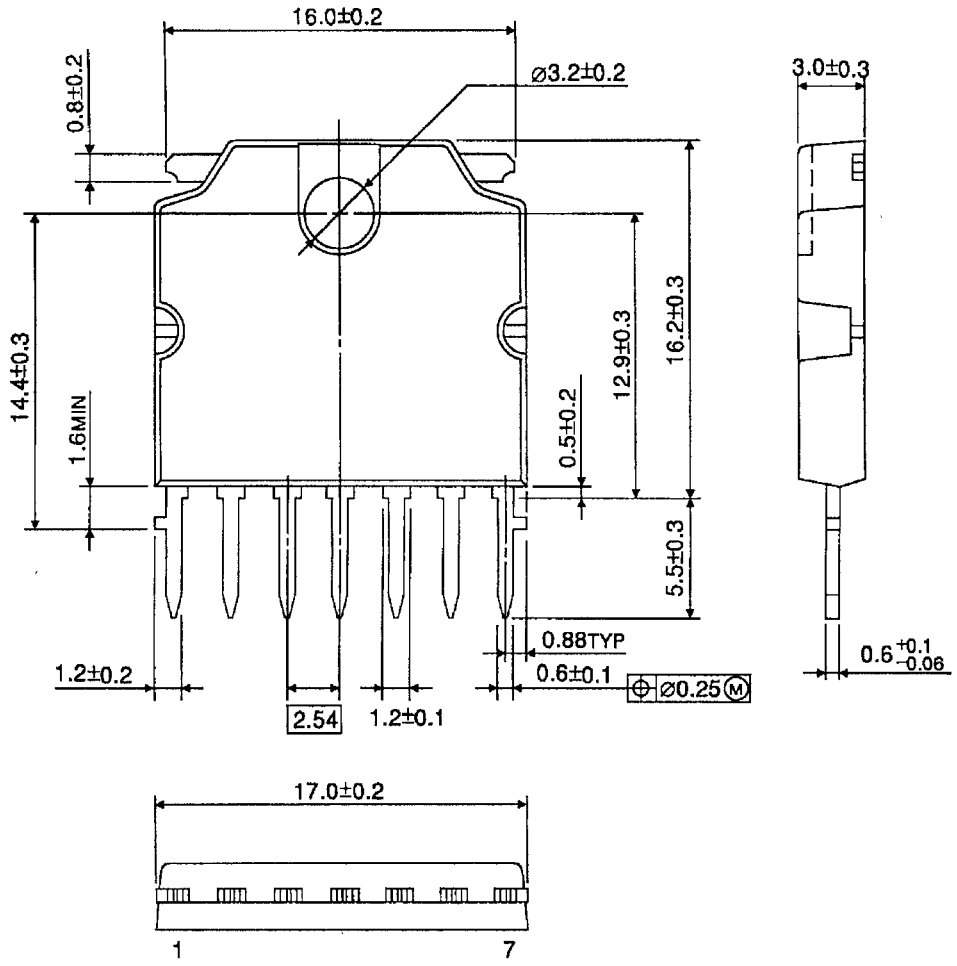


APPLICATION CIRCUIT



PACKAGE DIMENSIONS

HSIP7-P-2.54B Unit : mm



Weight: 2.2g (Typ.)