

TOSHIBA

TA8265K

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8265K

DUAL AUDIO POWER AMPLIFIER

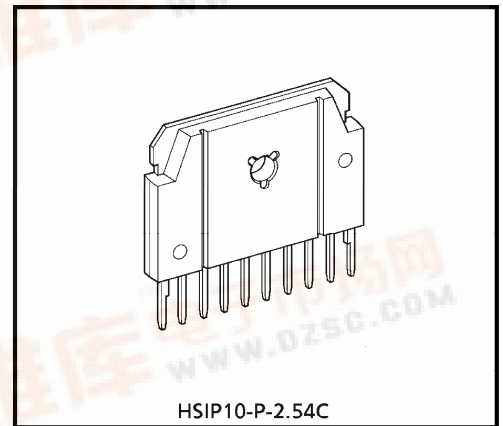
The TA8265K is dual audio power amplifier for consumer applications.

This IC provides an output power of 6 watts per channel (at $V_{CC} = 20\text{ V}$, $f = 1\text{ kHz}$, $\text{THD} = 10\%$, $R_L = 8\ \Omega$).

It is suitable for power amplifier of TV and home stereo.

FEATURES

- High Output Power : $P_{\text{out}} = 6\text{ W/channel (Typ.)}$
($V_{CC} = 20\text{ V}$, $R_L = 8\ \Omega$, $f = 1\text{ kHz}$, $\text{THD} = 10\%$)
- Low Noise : $V_{\text{no}} = 0.14\text{ mV}_{\text{rms}} \text{ (Typ.)}$
($V_{CC} = 20\text{ V}$, $R_L = 8\ \Omega$, $G_V = 34\text{ dB}$, $R_g = 10\text{ k}\Omega$,
 $\text{BW} = 20\text{ Hz}\sim 20\text{ kHz}$)
- Very Few External Parts
- Built In Thermal Shut Down Protector Circuit
- Operating Supply Voltage Range : $V_{CC}(\text{opr.}) = 10\sim 30\text{ V}$ ($T_a = 25^\circ\text{C}$)



Weight : 3.15 g (Typ.)

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● This product generates heat during normal operation. However, substandard performance or malfunction may cause the product and its peripherals to reach abnormally high temperatures. The product is often the final stage (the external output stage) of a circuit. Substandard performance or malfunction of the destination device to which the circuit supplies output may cause damage to the circuit or to the product.

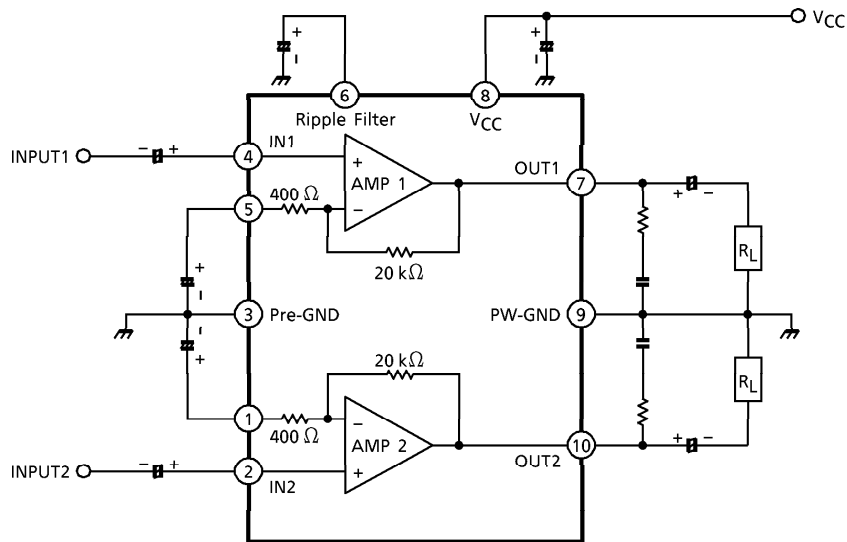
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BLOCK DIAGRAM



APPLICATION INFORMATION

(1) Voltage gain

The closed loop voltage gain is determined by R₁, R₂.

$$G_V = 20 \log \frac{R_1 + R_2}{R_2} \text{ (dB)}$$

$$= 20 \log \frac{20 \text{ k}\Omega + 400 \Omega}{400 \Omega}$$

$$\cong 34 \text{ (dB)}$$

(a) Amplifier with gain < 34 dB

$$G_V = 20 \log \frac{R_1 + R_2 + R_4}{R_2 + R_4} \text{ (dB)}$$

When R₄ = 220 Ω

$$G_V \cong 30 \text{ (dB)}$$

is given.

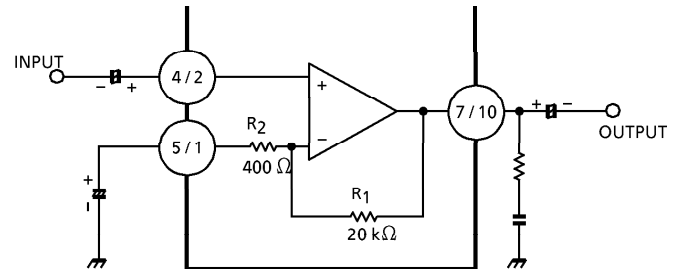


Fig.1

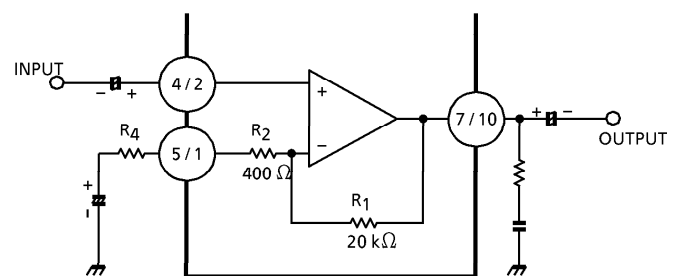


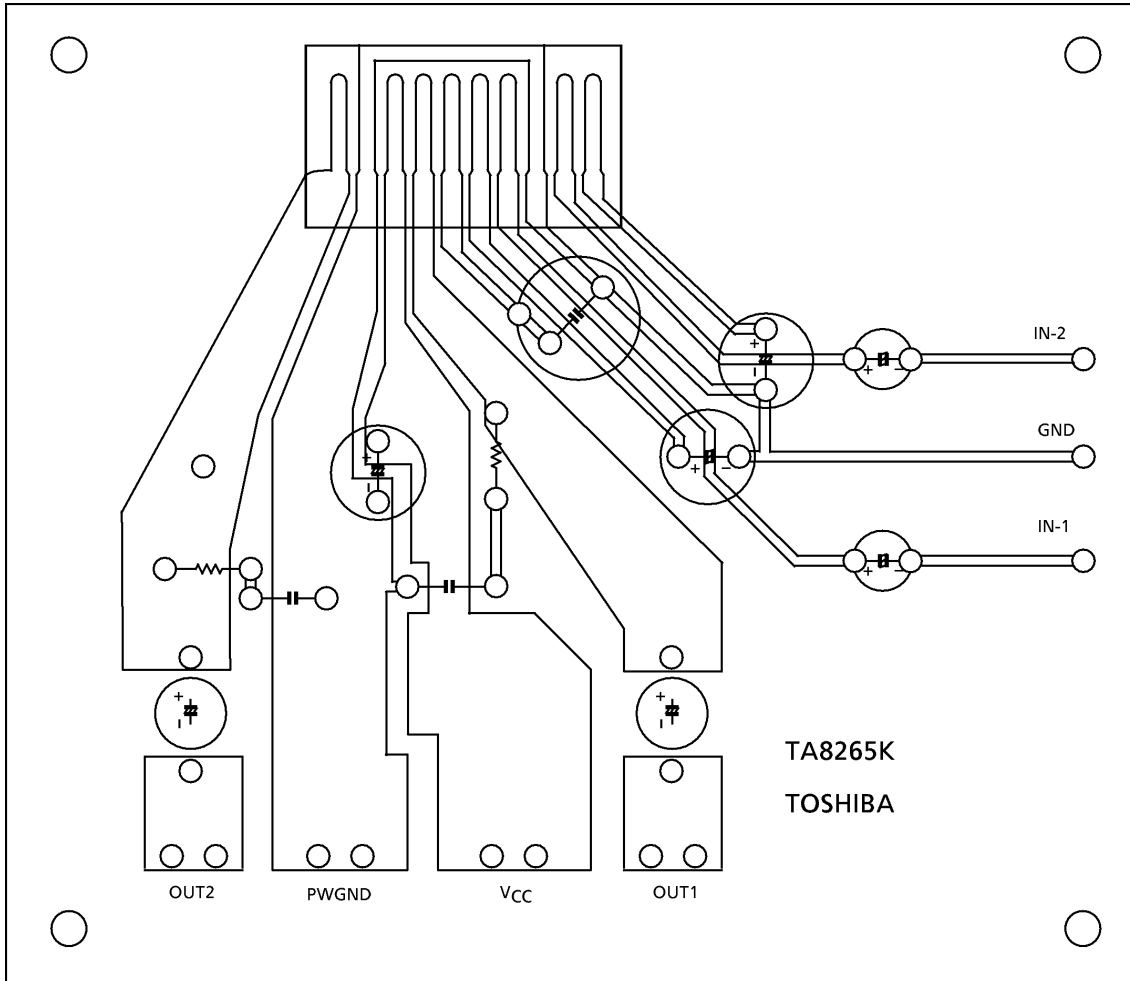
Fig.2

CAUTIONS

This IC is not proof enough against a strong E-M field by CRT which may cause malfunction such as leak.

Please set the IC keeping the distance from CRT.

STANDARD P.C.B



(BOTTOM VIEW)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	30	V
Output Current (Peak / Ch)	I _{O (peak)}	2	A
Power Dissipation	P _D (Note)	20	W
Operating Temperature	T _{opr}	- 20~75	°C
Storage Temperature	T _{stg}	- 55~150	°C

(Note) : Derated above Ta = 25°C in the proportion of 267 mW/°C.

ELECTRICAL CHARACTERISTICS

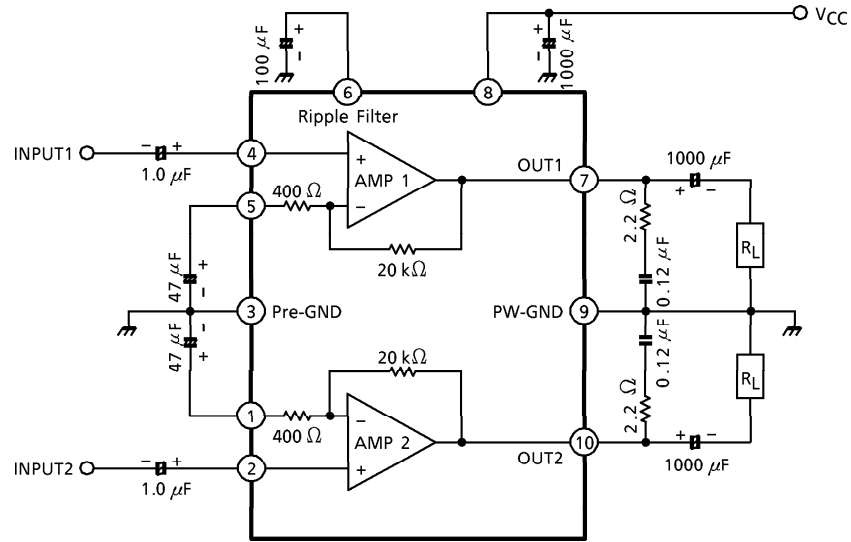
(Unless otherwise specified, V_{CC} = 20 V, R_L = 8 Ω, R_g = 600 Ω, f = 1 kHz, Ta = 25°C)

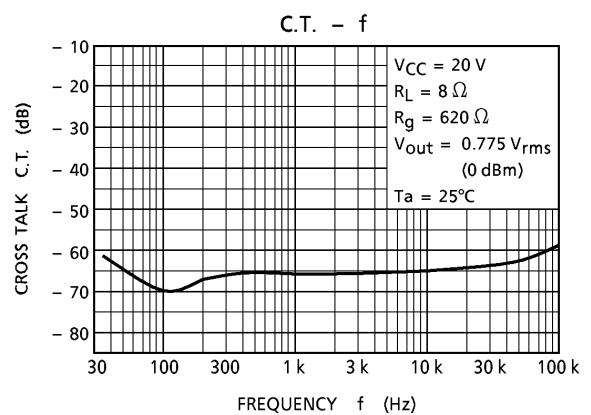
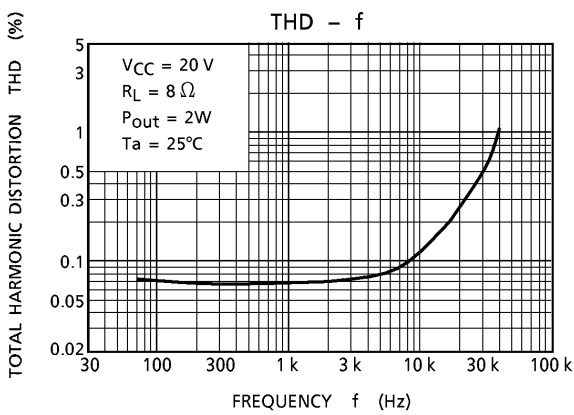
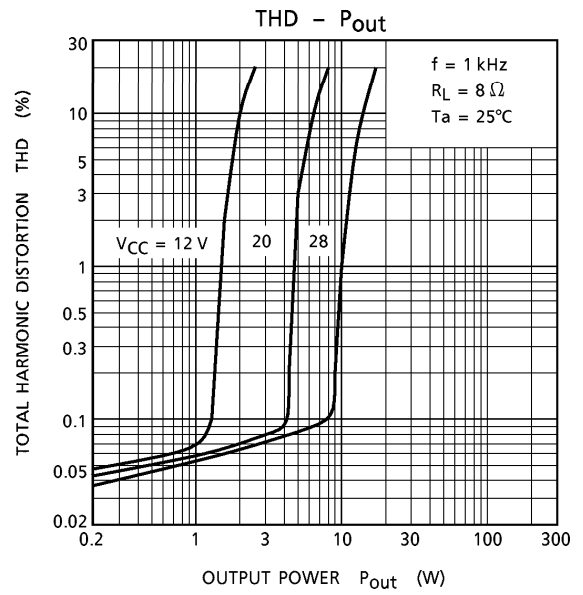
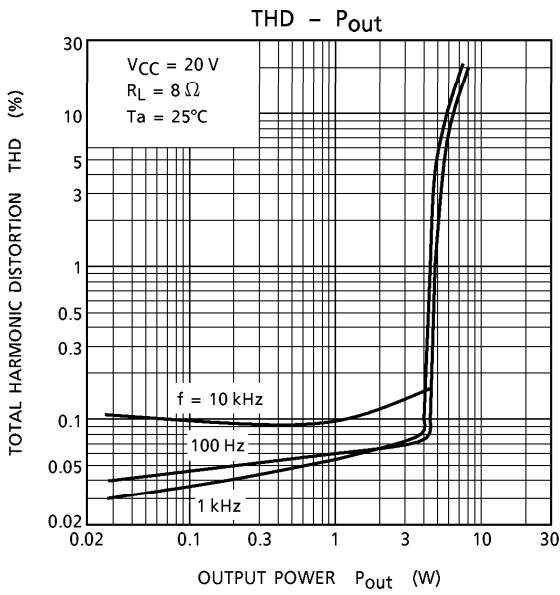
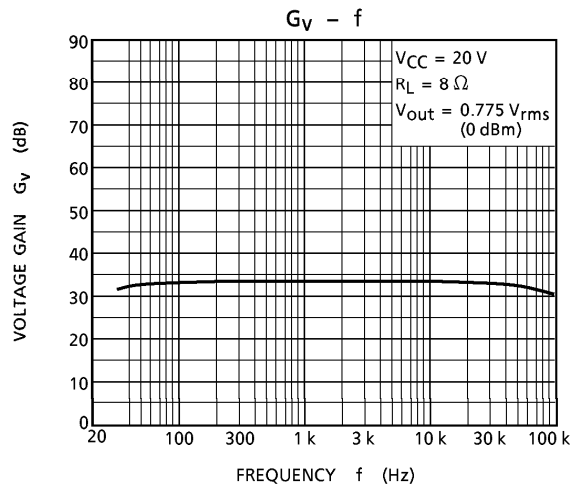
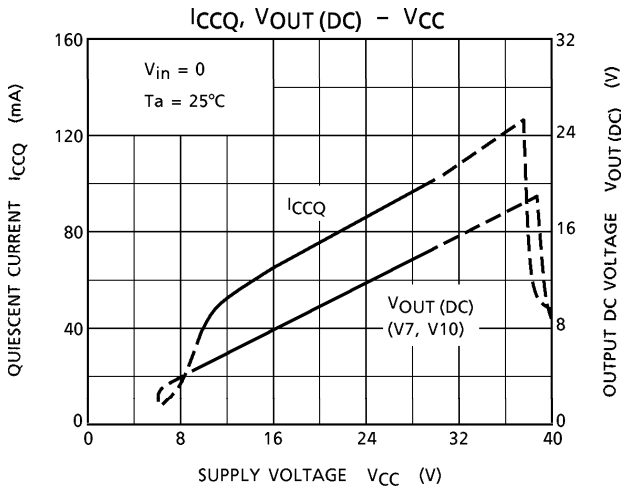
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I _{CCQ}	—	V _{in} = 0	—	75	130	mA
Output Power	P _{out} (1)	—	THD = 10%	5.0	6.0	—	W
	P _{out} (2)	—	THD = 1%	—	4.5	—	
Total Harmonic Distortion	THD	—	P _{out} = 2 W	—	0.1	0.6	%
Closed Loop Voltage Gain	G _v	—	V _{out} = 0.775 V _{rms} (0 dBm)	32.5	34.0	35.5	dB
Cross Talk	C.T.	—	V _{out} = 0.775 V _{rms} (0 dBm)	—	- 65	—	dB
Input Resistance	R _{IN}	—	—	—	30	—	kΩ
Ripple Rejection Ratio	R.R.	—	R _g = 10 kΩ, f _{ripple} = 100 Hz V _{ripple} = 0.775 V _{rms} (0 dBm)	- 45	- 57	—	dB
Output Noise Voltage	V _{no}	—	R _g = 10 kΩ, BW = 20 Hz~20 kHz	—	0.14	0.3	mV _{rms}

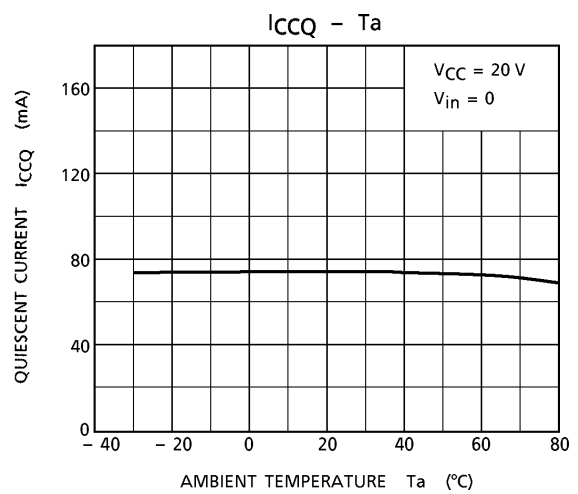
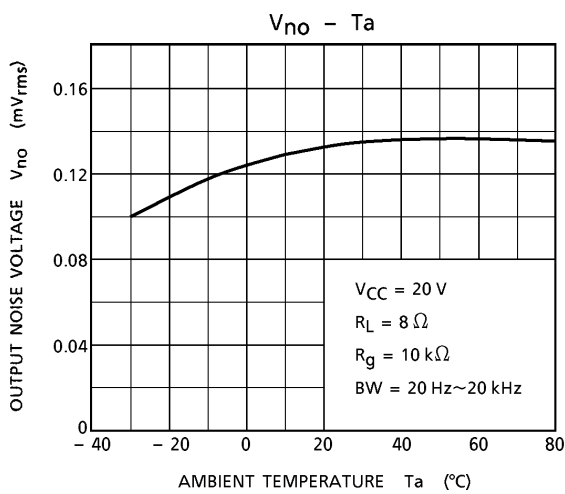
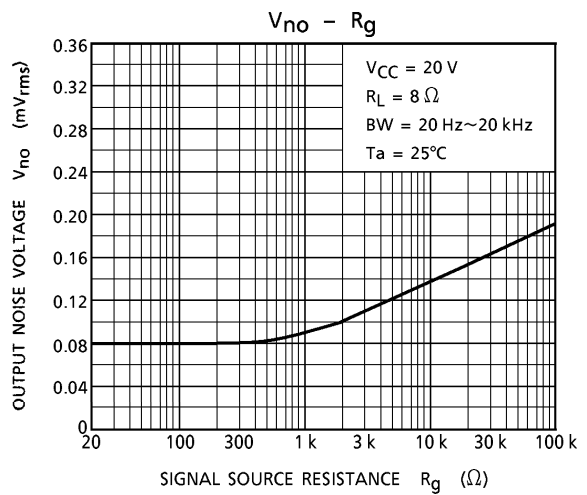
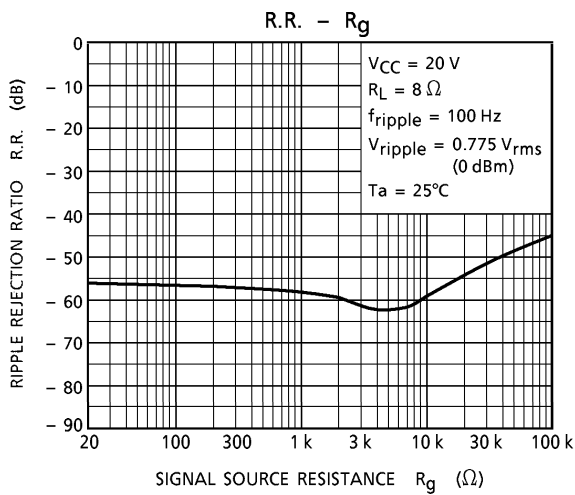
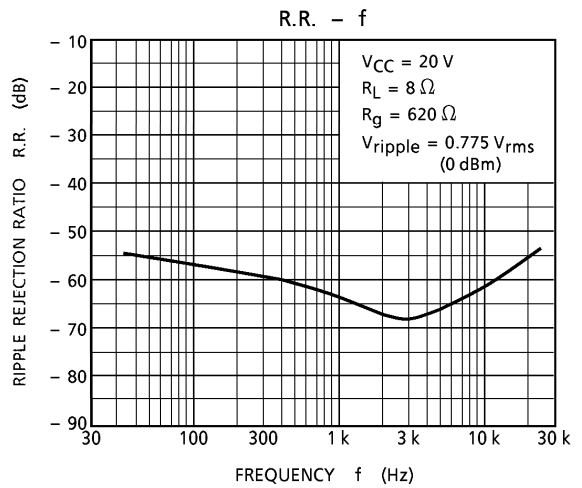
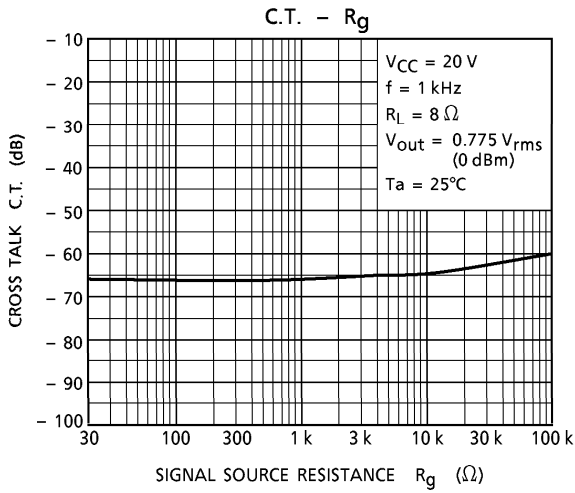
TYP. DC VOLTAGE OF EACH TERMINAL (V_{CC} = 20 V, Ta = 25°C)

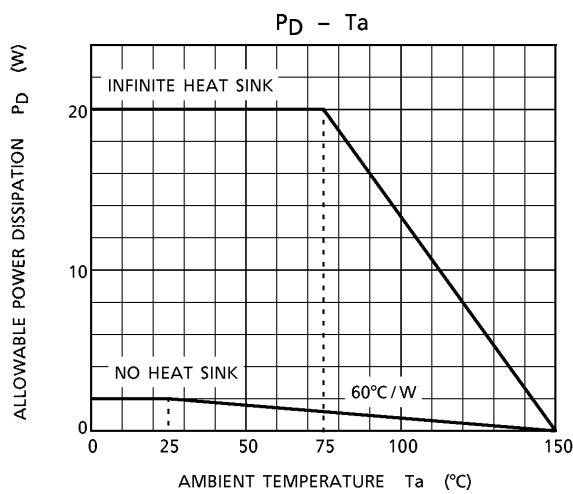
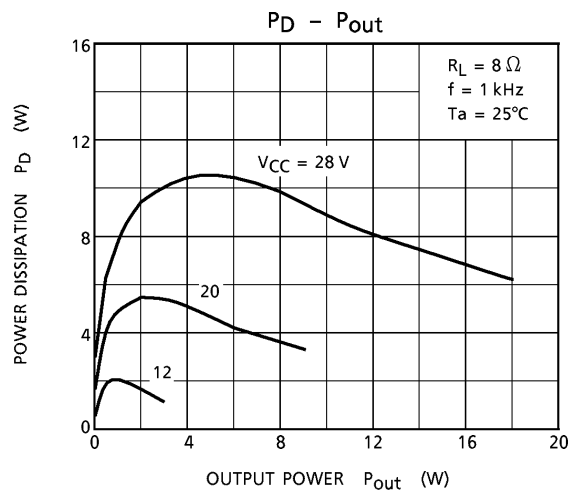
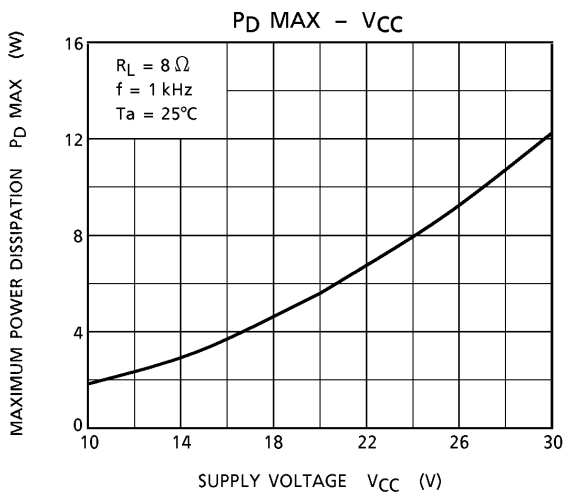
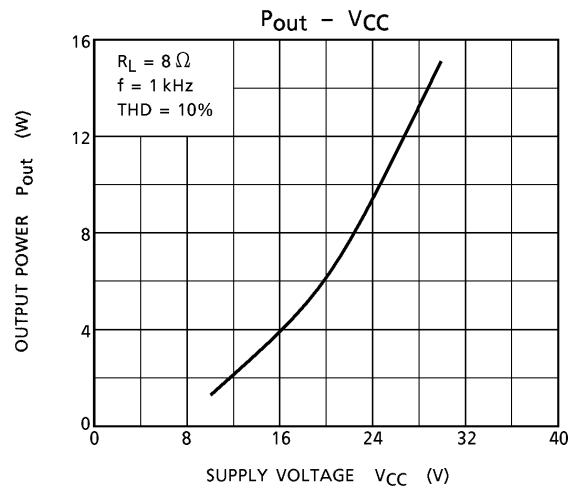
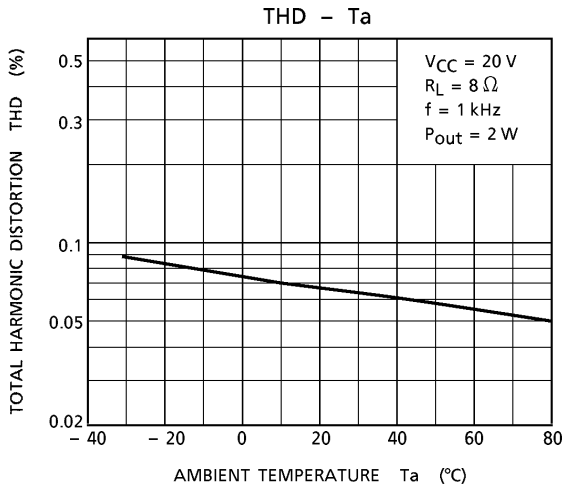
TERMINAL No.	1	2	3	4	5	6	7	9	9	10
DC Voltage (V)	2.1	2.25	GND	2.25	2.1	6.8	9.8	V _{CC}	GND	9.8

TEST CIRCUIT



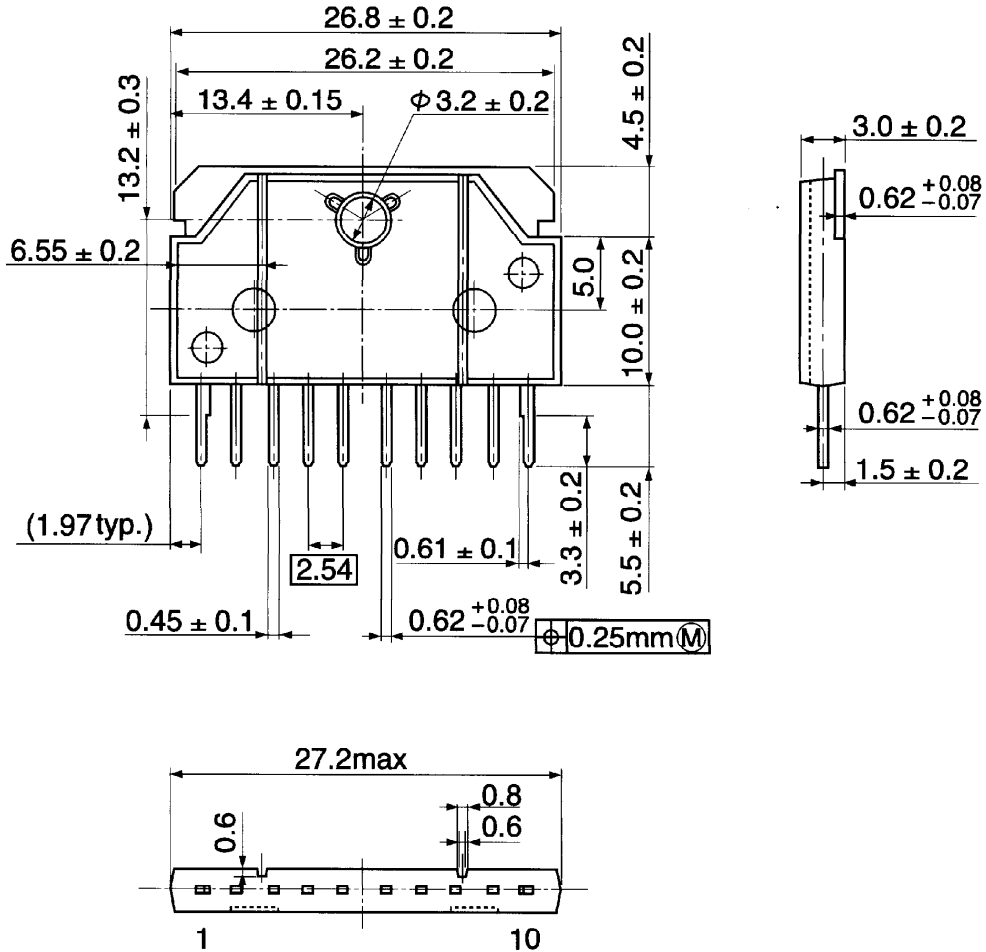






PACKAGE DIMENSIONS
HSIP10-P-2.54C

Unit : mm



Weight : 3.15 g (Typ.)