

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8265K**DUAL AUDIO POWER AMPLIFIER**

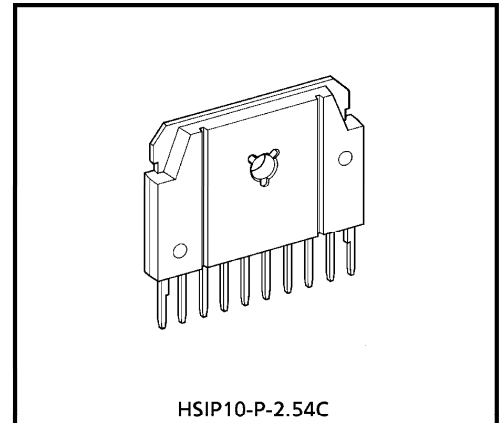
The TA8265K is dual audio power amplifier for consumer applications.

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 : $V_{CC(\text{opr.})} = 10 \sim 30\text{ V}$ ($T_a = 25^\circ\text{C}$)

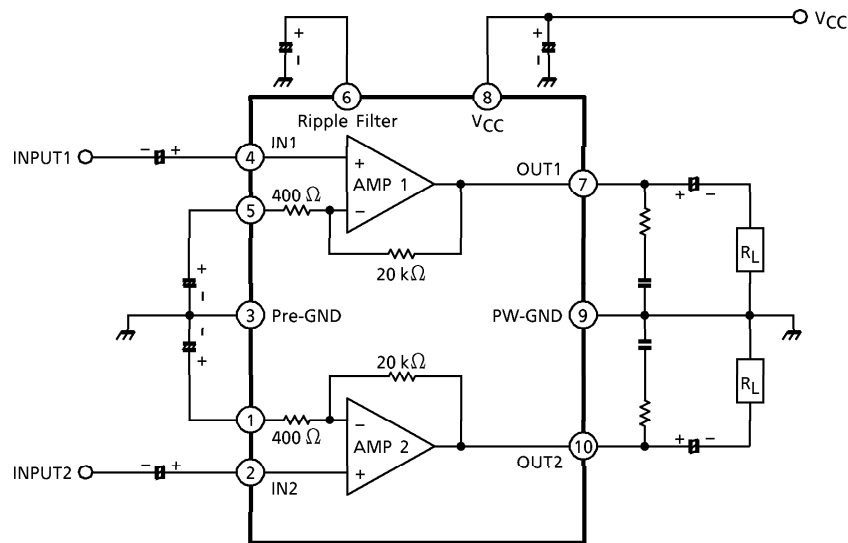


Weight : 3.15 g (Typ.)

980910EBF1

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BLOCK DIAGRAM



APPLICATION INFORMATION

(1) Voltage gain

The closed loop voltage gain is determined by R_1 , R_2 .

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

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

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

(a) Amplifier with gain < 34 dB

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

When $R_4 = 220 \Omega$
 $G_V \approx 30 \text{ (dB)}$
 is given.

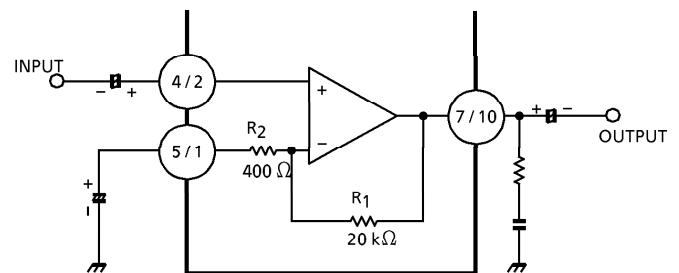


Fig.1

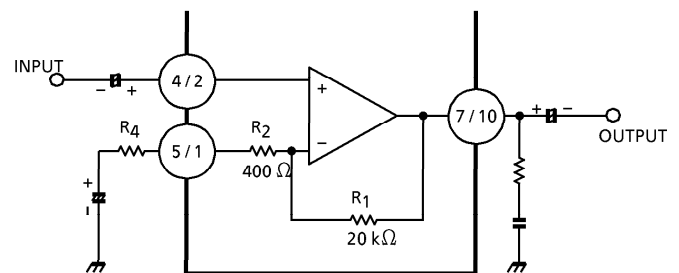


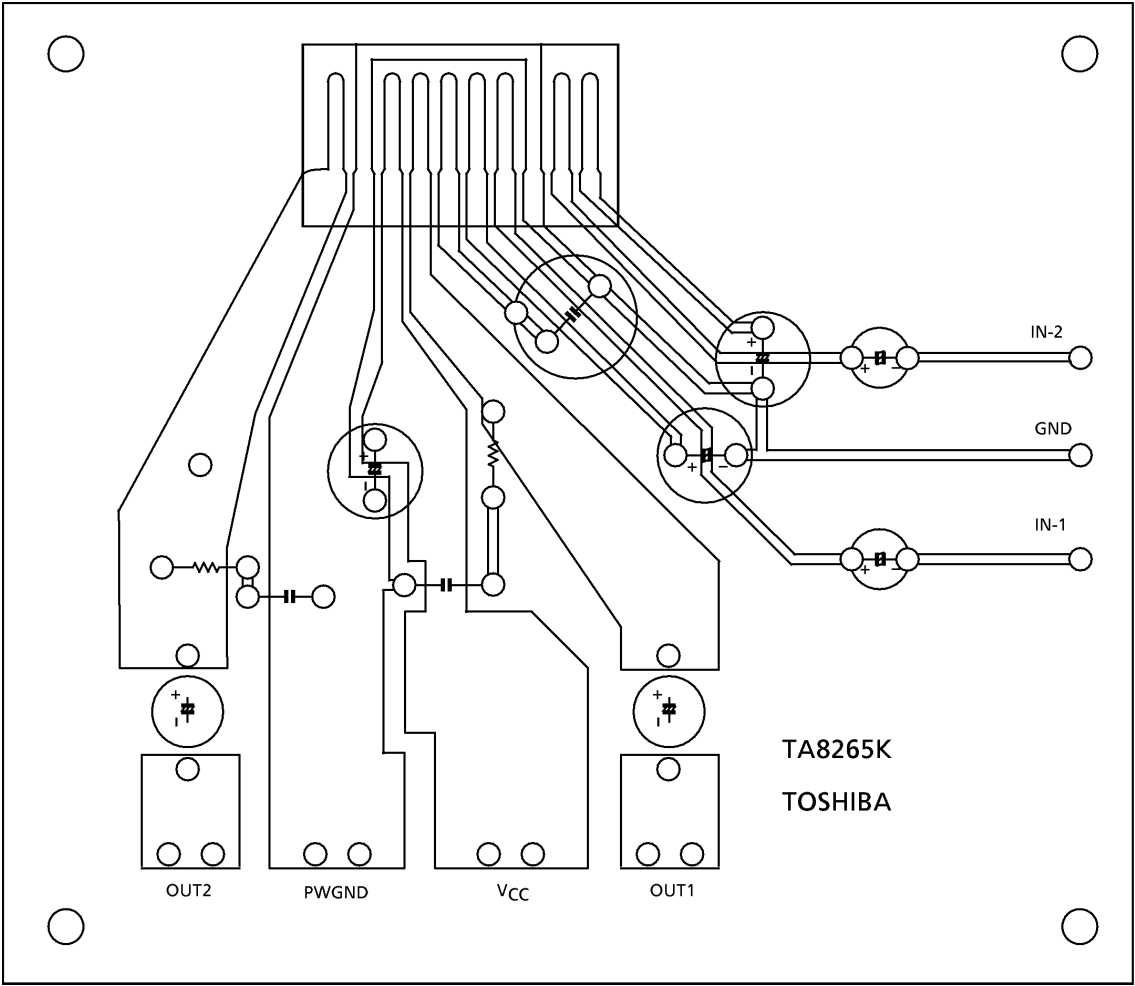
Fig.2

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 ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	30	V
Output Current (Peak / Ch)	$I_{O(\text{peak})}$	2	A
Power Dissipation	P_D (Note)	20	W
Operating Temperature	T_{opr}	$-20 \sim 75$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

(Note) : Derated above $T_a = 25^\circ\text{C}$ in the proportion of $267 \text{ mW}/^\circ\text{C}$.

ELECTRICAL CHARACTERISTICS

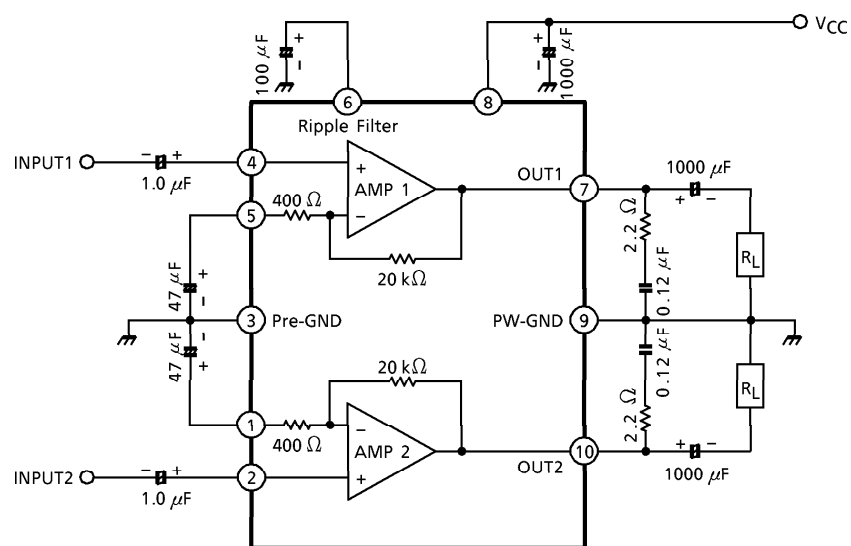
(Unless otherwise specified, $V_{CC} = 20 \text{ V}$, $R_L = 8 \Omega$, $R_g = 600 \Omega$, $f = 1 \text{ kHz}$, $T_a = 25^\circ\text{C}$)

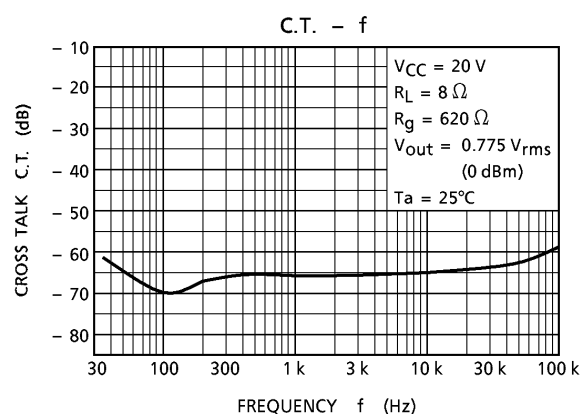
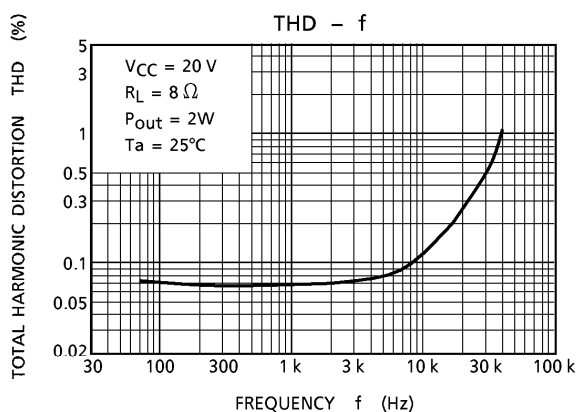
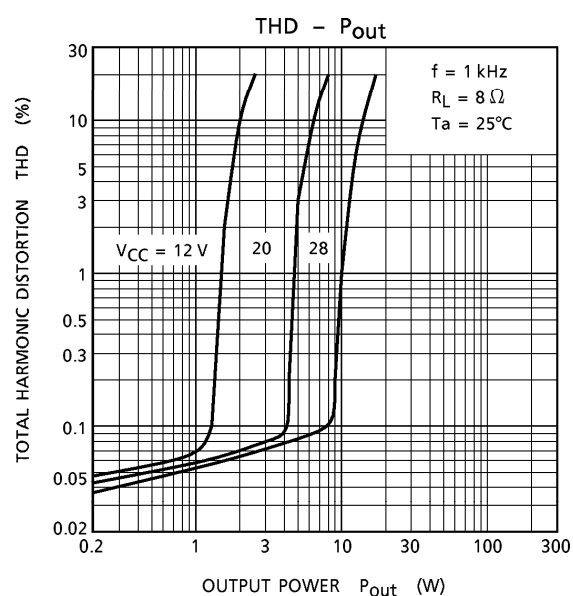
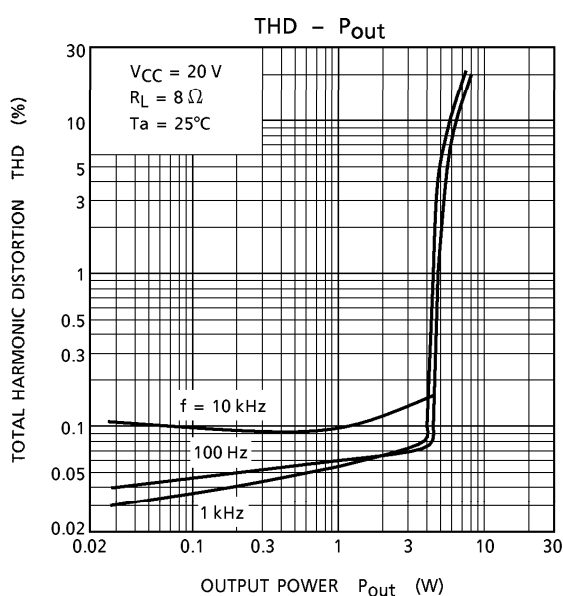
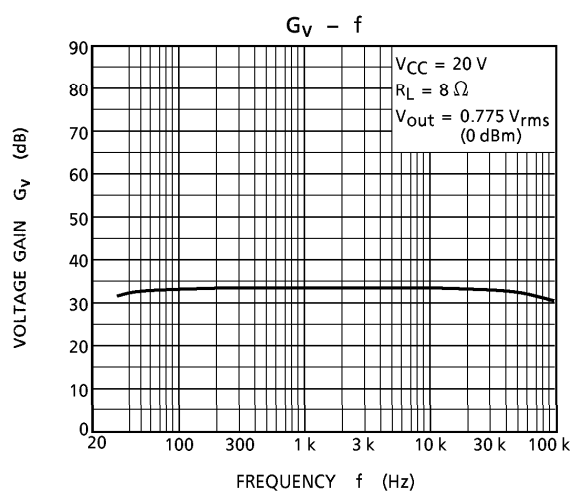
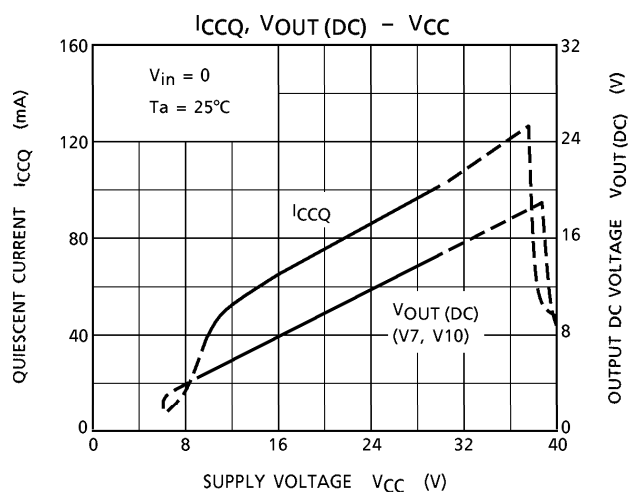
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I_{CCQ}	—	$V_{in} = 0$	—	75	130	mA
Output Power	$P_{out(1)}$	—	THD = 10%	5.0	6.0	—	W
	$P_{out(2)}$	—	THD = 1%	—	4.5	—	
Total Harmonic Distortion	THD	—	$P_{out} = 2 \text{ W}$	—	0.1	0.6	%
Closed Loop Voltage Gain	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	—	$k\Omega$
Ripple Rejection Ratio	R.R.	—	$R_g = 10 k\Omega$, $f_{ripple} = 100 \text{ Hz}$ $V_{ripple} = 0.775 V_{rms}$ (0 dBm)	-45	-57	—	dB
Output Noise Voltage	V_{no}	—	$R_g = 10 k\Omega$, $BW = 20 \text{ Hz} \sim 20 \text{ kHz}$	—	0.14	0.3	mV_{rms}

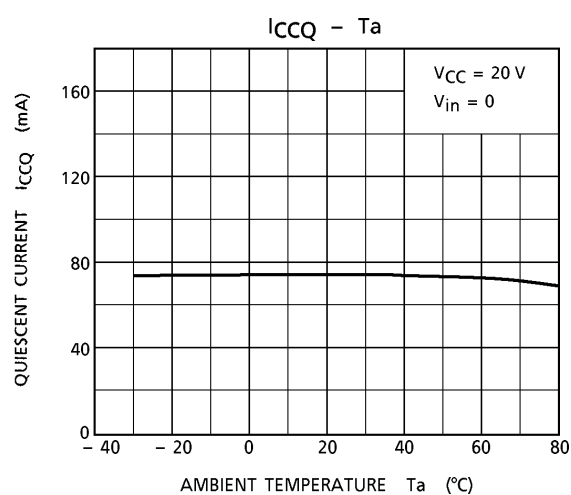
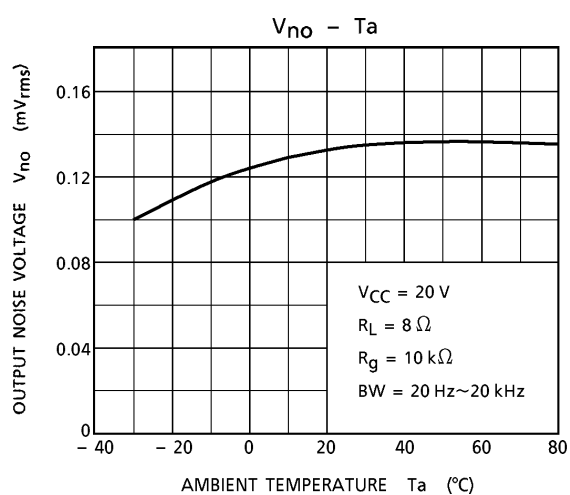
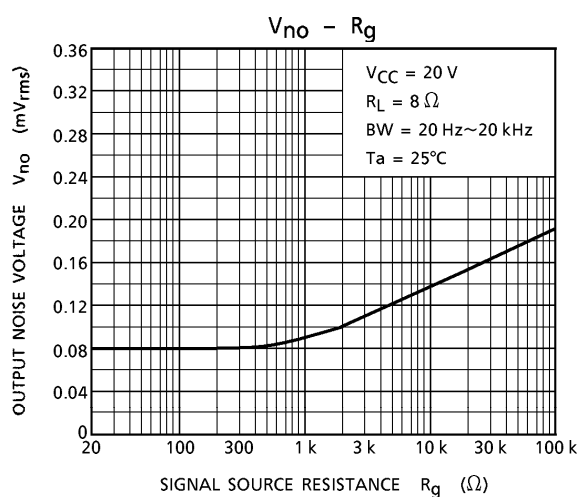
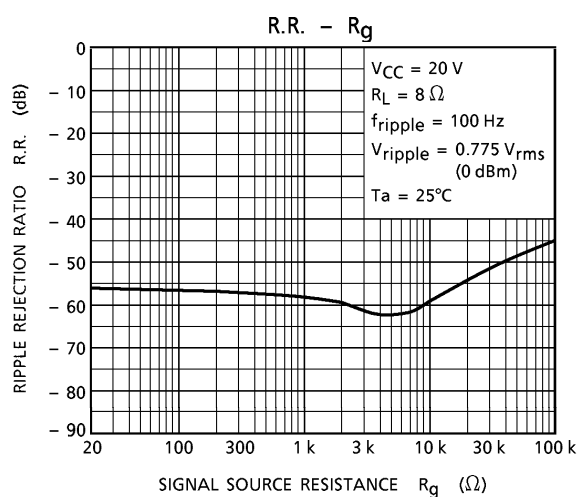
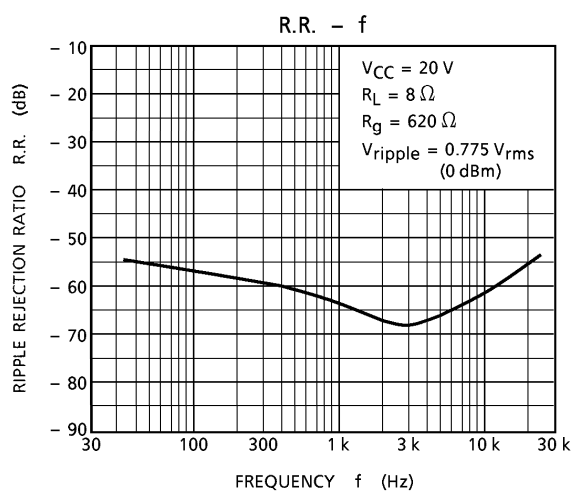
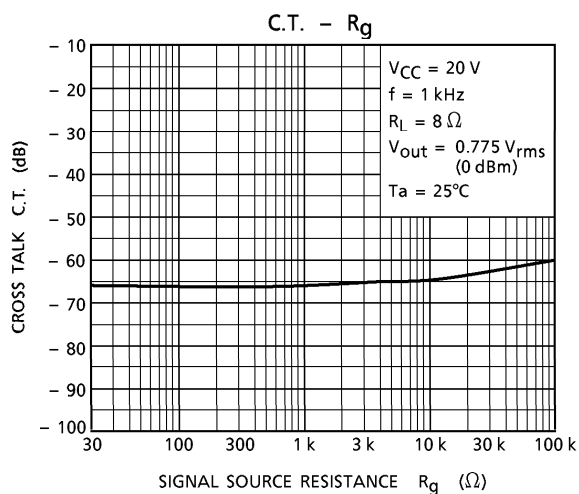
TYP. DC VOLTAGE OF EACH TERMINAL ($V_{CC} = 20 \text{ V}$, $T_a = 25^\circ\text{C}$)

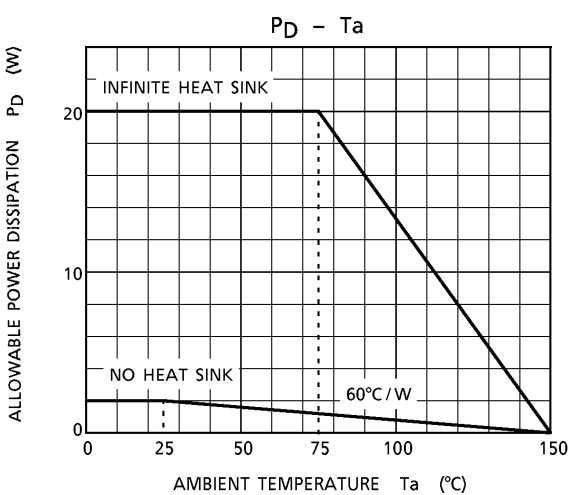
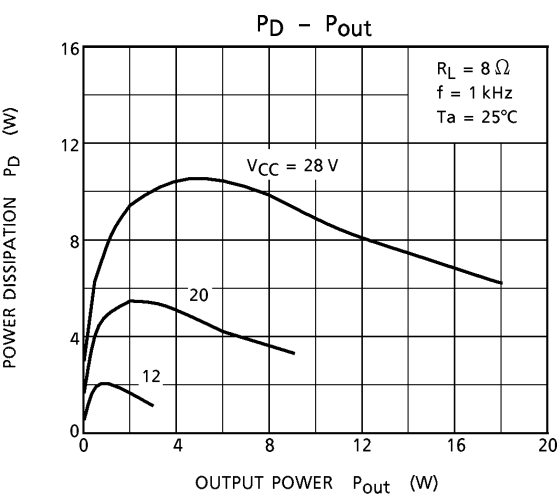
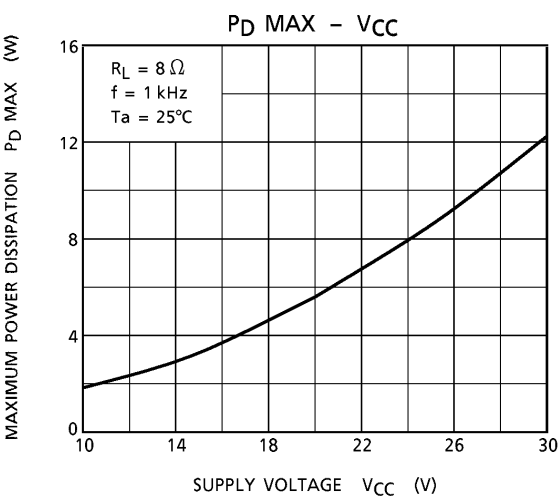
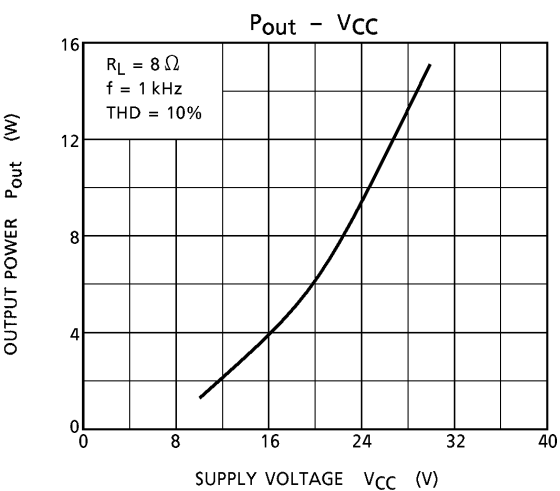
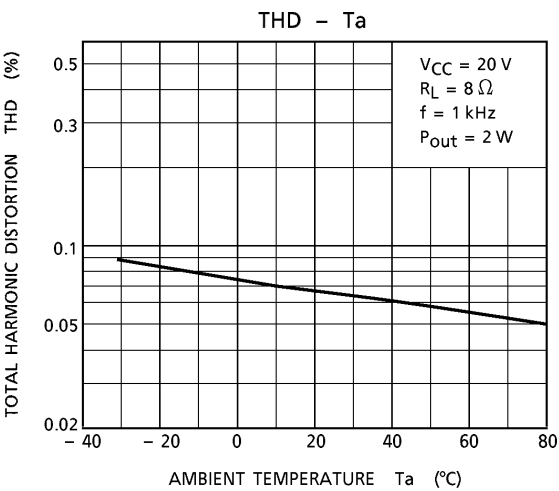
TERMINAL No.	1	2	3	4	5	6	7	9	9	10
DC Voltage (V)	2.1	2.25	GND	2.25	2.1	6.8	9.8	V_{CC}	GND	9.8

TEST CIRCUIT



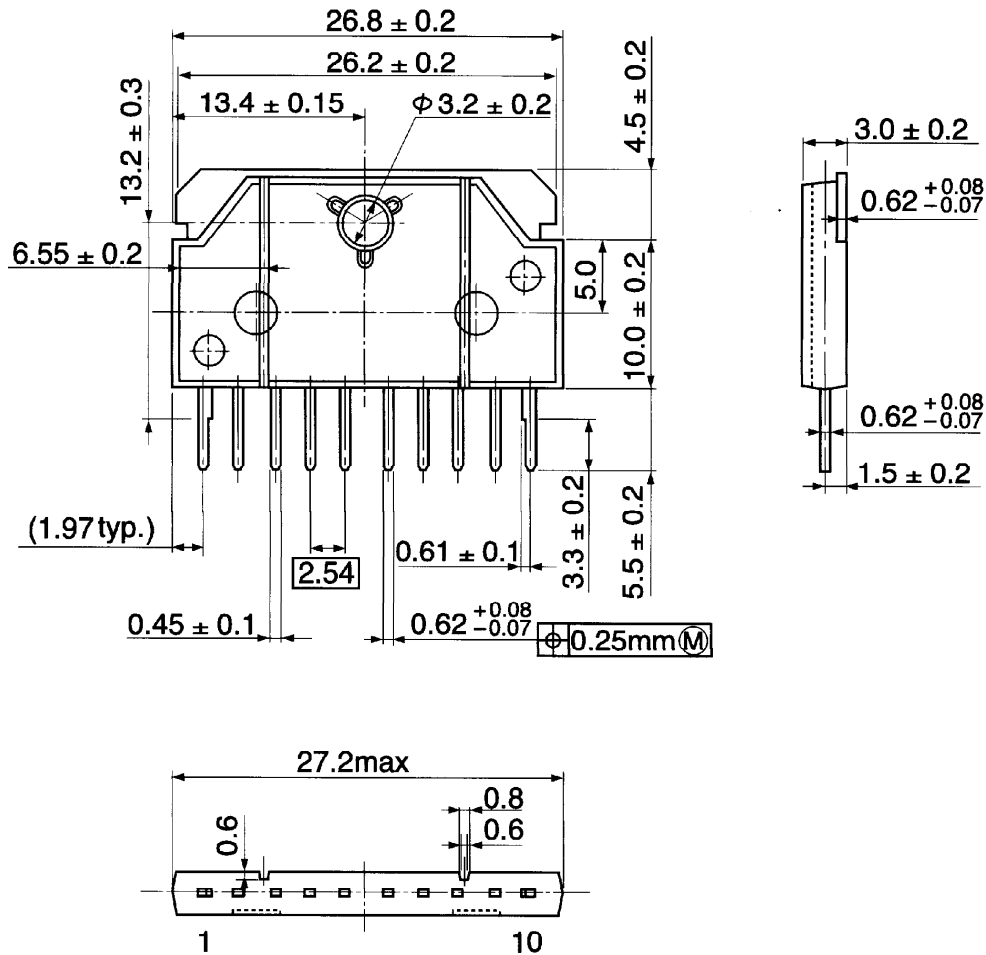






PACKAGE DIMENSIONS
HSIP10-P-2.54C

Unit : mm



Weight : 3.15 g (Typ.)