

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

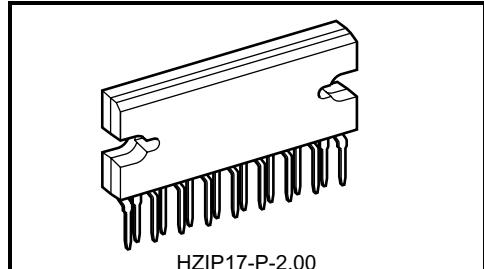
TA8218AH

Audio Power Amplifier

The TA8218AH is 3 channel audio amplifier for consumer applications.

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

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



Weight : 9.8 g (Typ.)

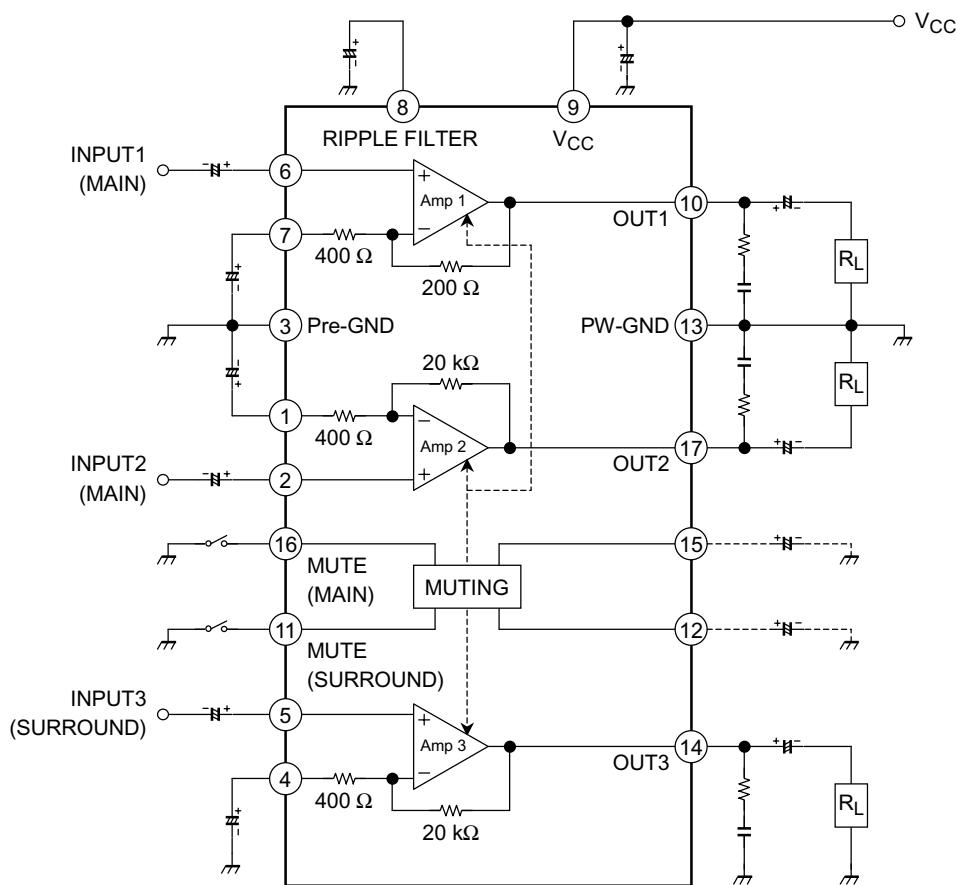
Features

- Built-in 3ch amplifier
- High output power: $P_{out} = 6$ W/ch (Typ.)
($V_{CC} = 20$ V, $RL = 8 \Omega$, $f = 1$ kHz, THD = 10%)
- Low noise: $V_{no} = 0.14$ mVrms (Typ.)
($V_{CC} = 20$ V, $RL = 8 \Omega$, $G_V = 34$ dB, $R_g = 10$ k Ω , $BW = 20$ Hz~20 kHz)
- Built in audio muting circuit (Active \rightarrow Low)
: Main amp/surround amp independent control.
- Built in various protection circuits
Protection circuit: Thermal shut down, over voltage, Out \rightarrow GND short.
- Operation supply voltage range: V_{CC} (opr) = 10~30 V ($T_a = 25^\circ\text{C}$)

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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



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.

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Supply voltage	V _{CC}	30	V
Output current (Peak/ch)	P _D (Note)	50	W
Operation temperature	T _{opr}	-20~75	°C
Storage temperature	T _{stg}	-55~150	°C

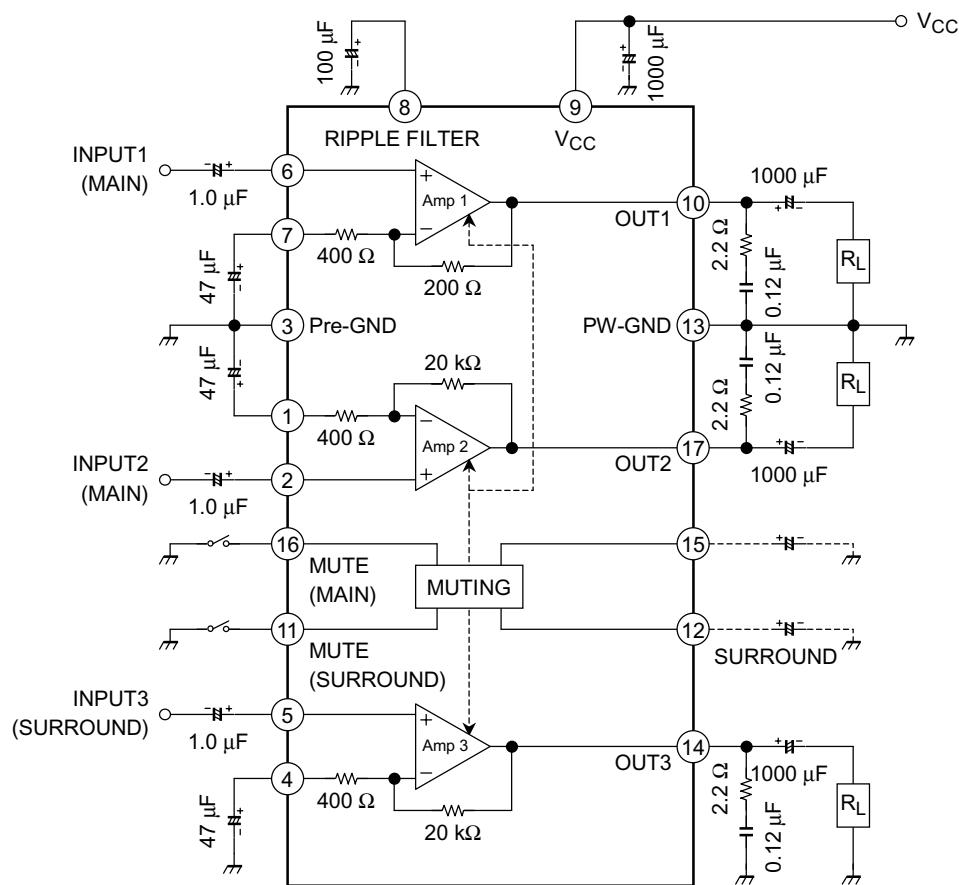
Note: Derated above Ta = 25°C in the proportion of 400 mW/°C.

Electrical Characteristics

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

Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Quiescent current	I _{CCQ}	—	V _{in} = 0	40	90	160	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	%
Voltage gain	G _V	—	V _{out} = 0.775 Vrms	32.5	34.0	35.5	dB
Input resistance	R _{IN}	—	—	—	30	—	kΩ
Ripple rejection ratio	R.R.	—	R _g = 0, f _{ripple} = 100 Hz, V _{ripple} = 0.775 Vrms	-50	-60	—	dB
Output noise voltage	V _{no}	—	R _g = 10 kΩ, BW = 20 Hz~20 kHz	—	0.14	0.3	mVrms
Cross talk	C.T.	—	R _g = 0, V _{out} = 0.775 Vrms Two channels input	—	-60	—	dB
Muting threshold voltage	V _{th} (OFF)	—	Mute OFF 11/16 pin	—	3.7	4.0	V
	V _{th} (ON)	—	Mute ON 11/16 pin	2.5	2.8	—	
Muting attenuation	ATT	—	V _{out} = 0.775 Vrms → Mute Three channels input	-52	-60	—	dB

Test Circuit

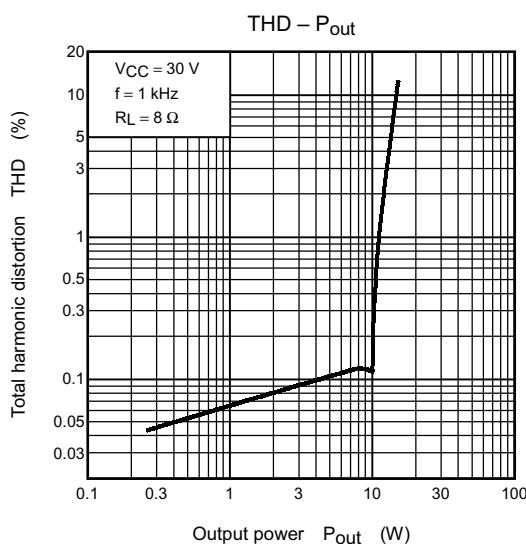
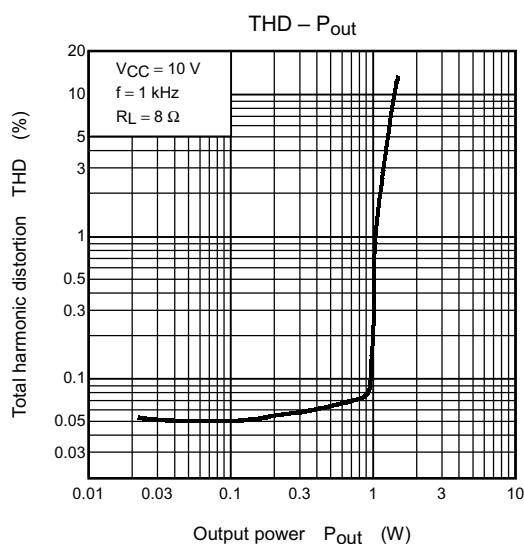
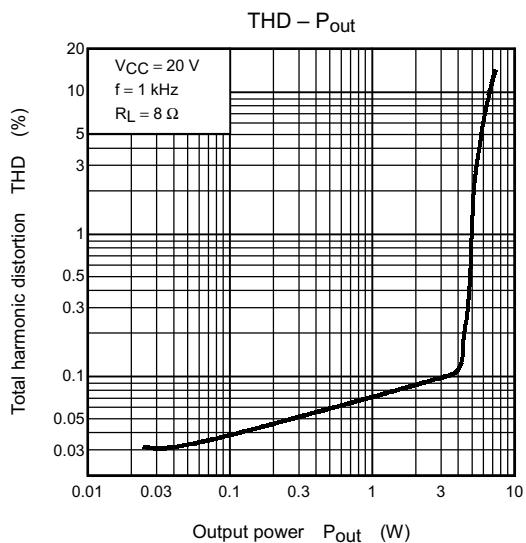
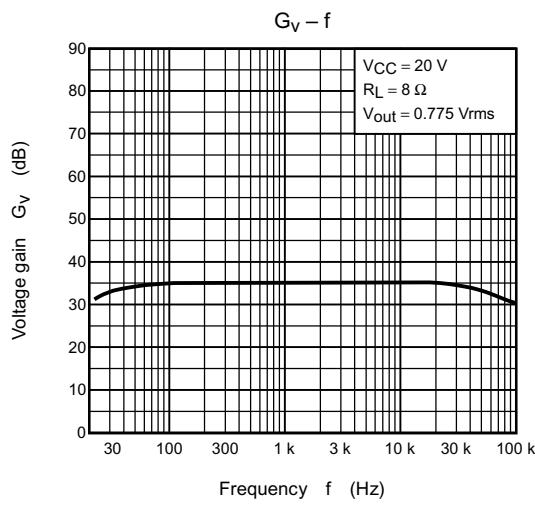
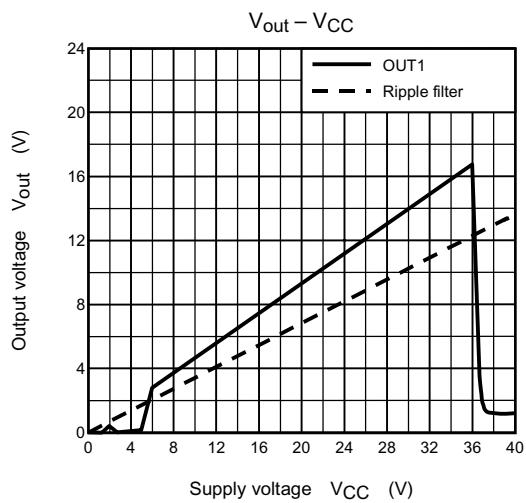
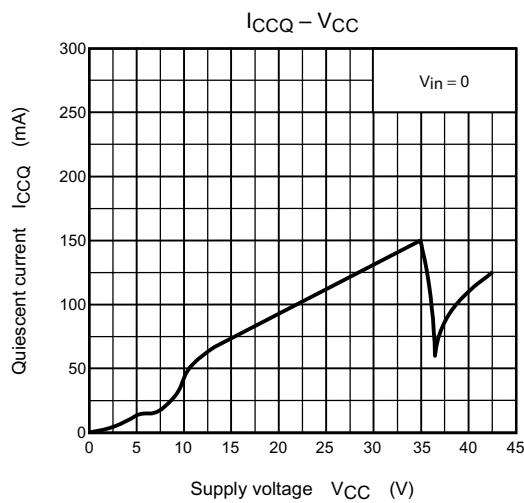


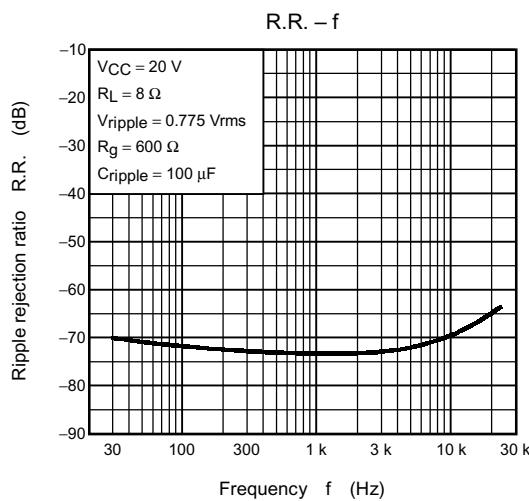
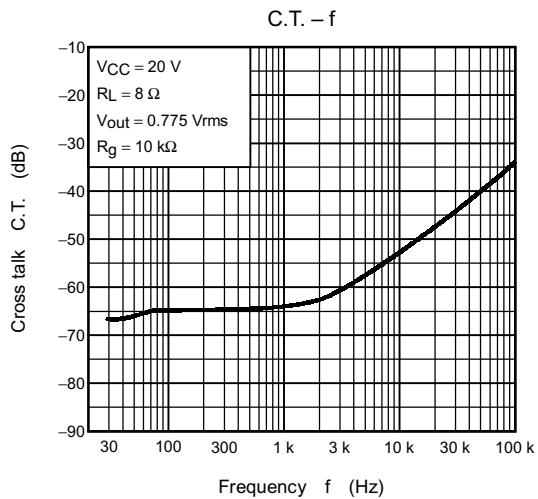
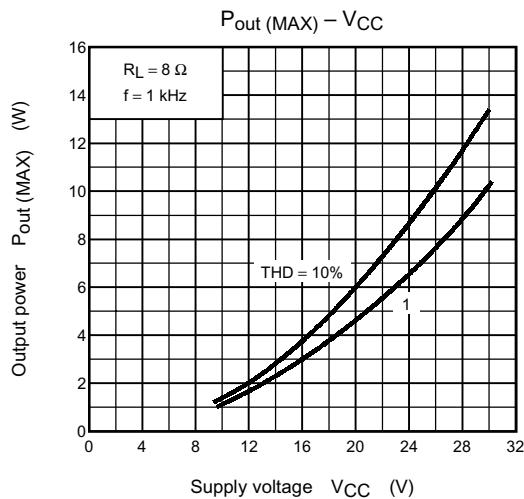
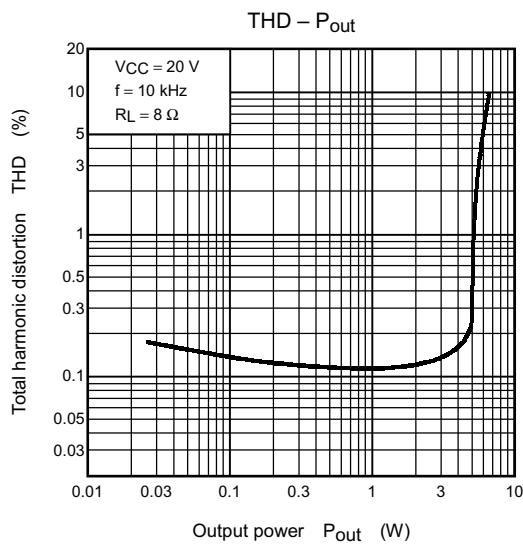
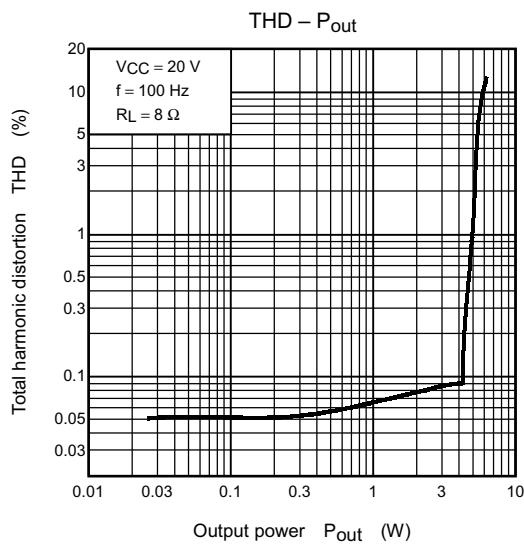
*1 16/11 pin LOW: mute ON

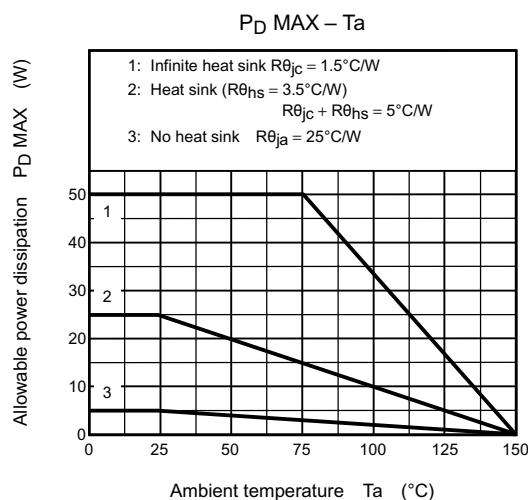
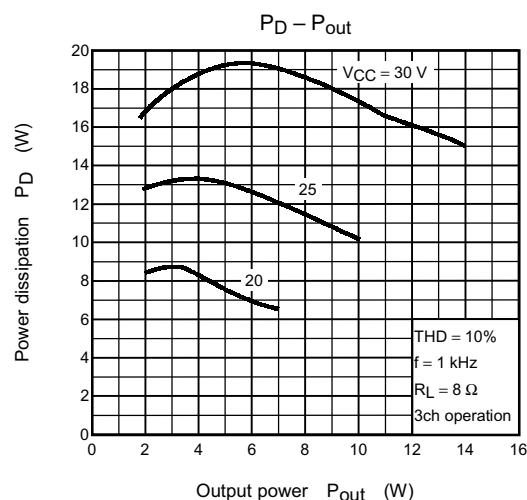
Mute ON : V_{th} 16/11 = 2.8 V (Typ.) (V_{CC} = 20 V, T_a = 25°C)

Mute OFF: V_{th} 16/11 = 3.7 V (Typ.) ($V_{CC} = 20$ V, $T_a = 25^\circ\text{C}$)

*2 The capacitor for reducing POP noise at mute ON



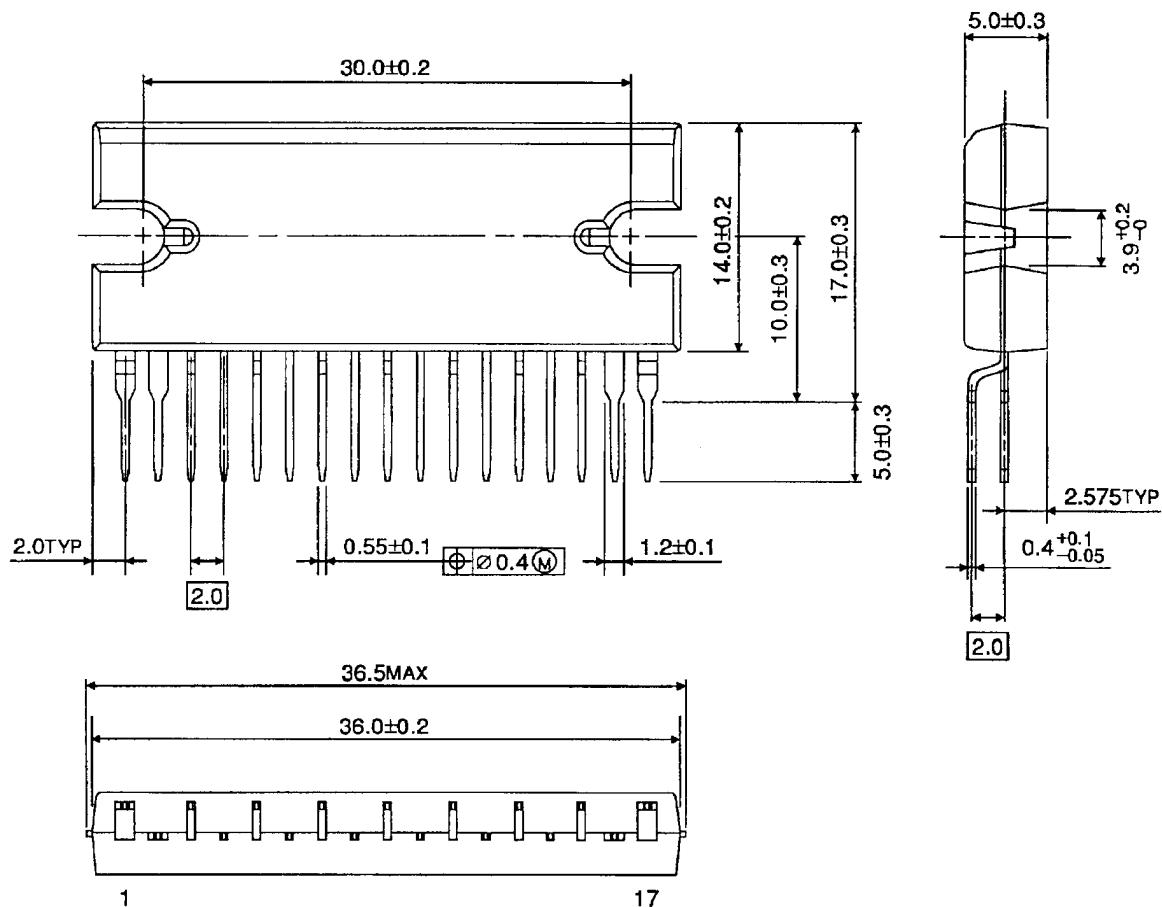




Package Dimensions

HZIP17-P-2.00

Unit : mm



Weight : 9.8 g (Typ.)