

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA8218AH

Audio Power Amplifier

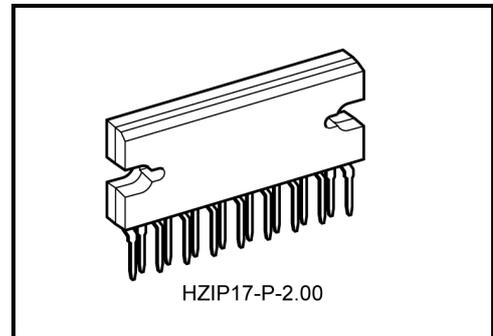
The TA8218AH is 3 channel audio amplifier for consumer applications.

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

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

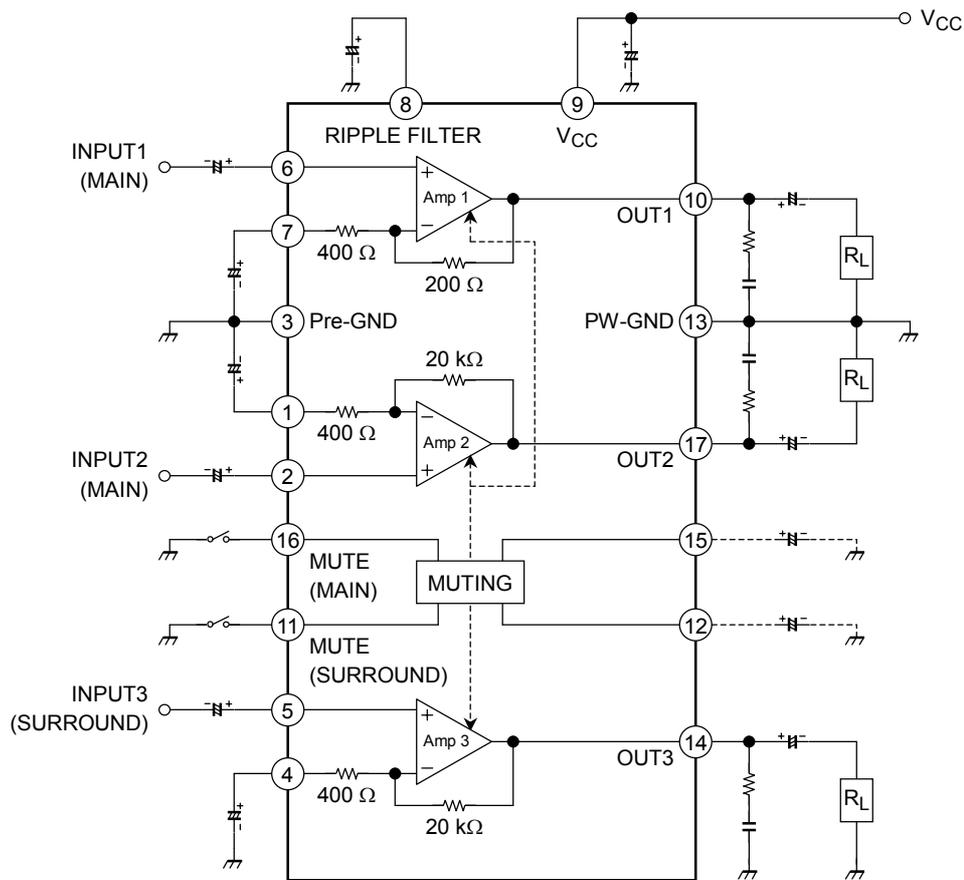
Features

- Built-in 3ch amplifier
- High output power: $P_{out} = 6\text{ W/ch}$ (Typ.)
($V_{CC} = 20\text{ V}$, $R_L = 8\ \Omega$, $f = 1\text{ kHz}$, $\text{THD} = 10\%$)
- Low noise: $V_{no} = 0.14\text{ mVrms}$ (Typ.)
($V_{CC} = 20\text{ V}$, $R_L = 8\ \Omega$, $G_V = 34\text{ dB}$, $R_g = 10\text{ k}\Omega$,
 $\text{BW} = 20\text{ Hz}\sim 20\text{ kHz}$)
- 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: $V_{CC}(\text{opr}) = 10\sim 30\text{ V}$ ($T_a = 25^\circ\text{C}$)



Weight: 9.8 g (typ.)

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)

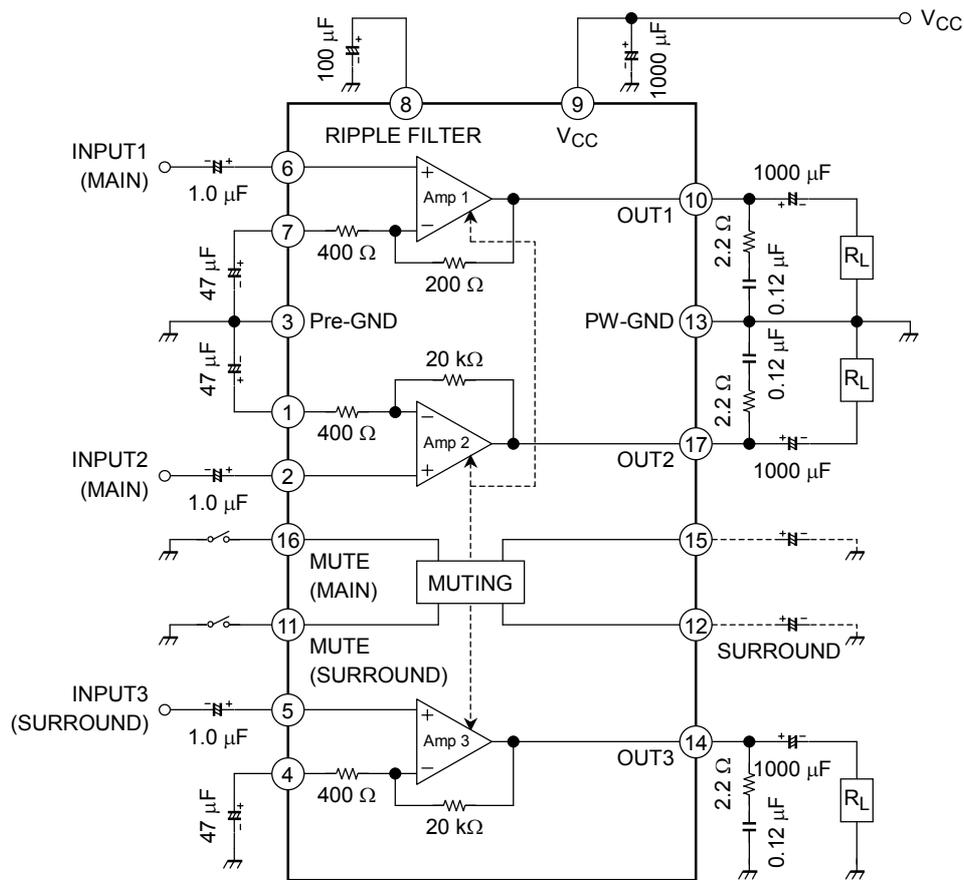
Characteristics	Symbol	Rating	Unit
Supply voltage	V _{CC}	30	V
Output current (Peak/ch)	P _D (Note)	50	W
Operation temperature	T _{opr}	-20~75	°C
Storage temperature	T _{stg}	-55~150	°C

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)

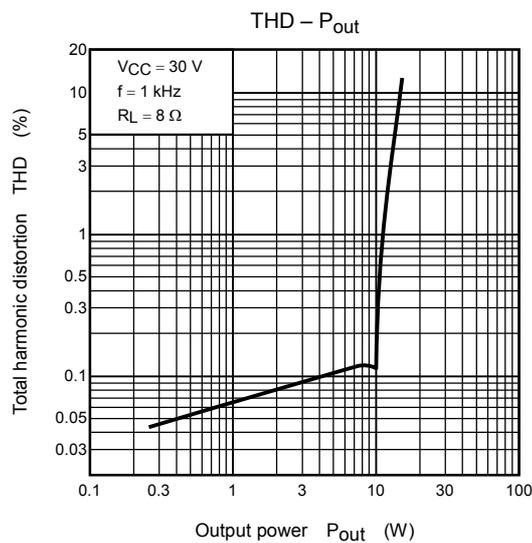
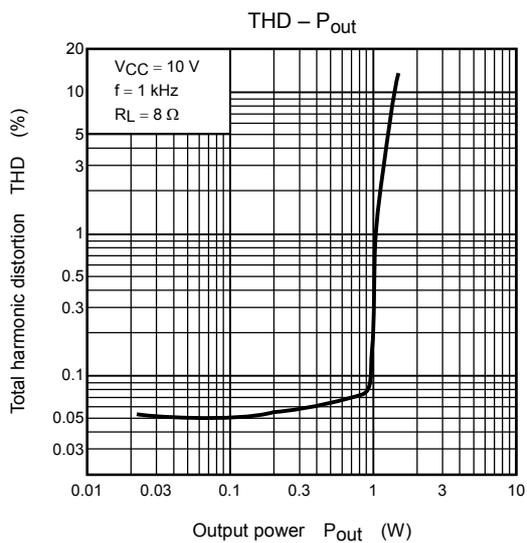
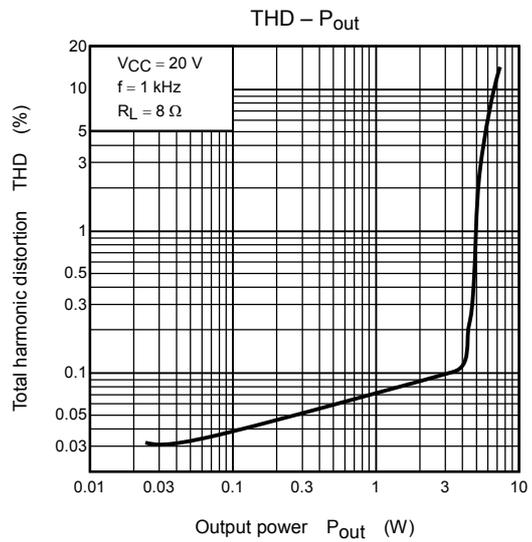
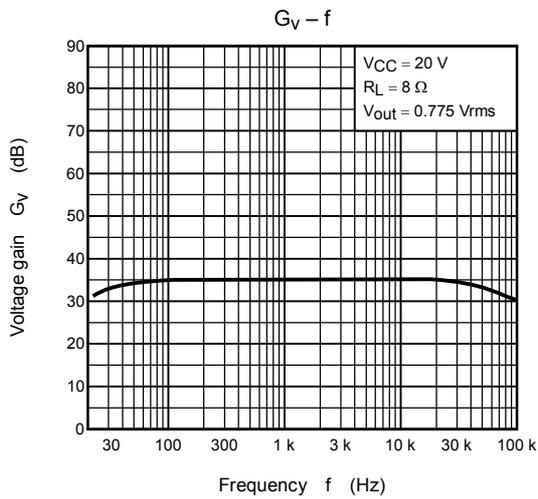
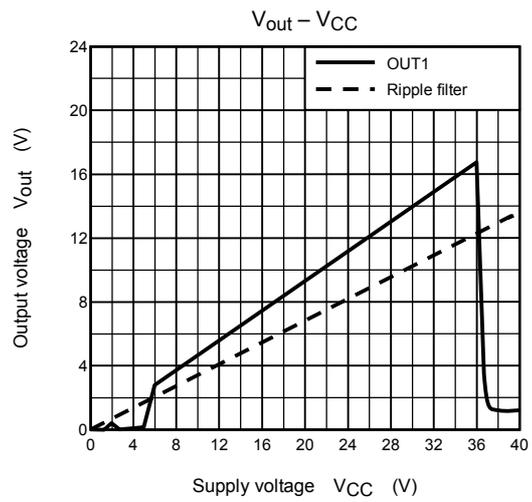
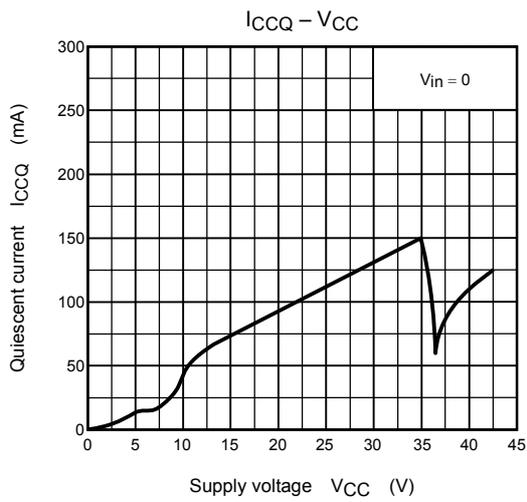
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Quiescent current	I _{CCQ}	—	V _{in} = 0	40	90	160	mA
Output power	P _{out} (1)	—	THD = 10%	5.0	6.0	—	W
	P _{out} (2)	—	THD = 1%	—	4.5	—	
Total harmonic distortion	THD	—	P _{out} = 2 W	—	0.1	0.6	%
Voltage gain	G _v	—	V _{out} = 0.775 V _{rms}	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 V _{rms}	-50	-60	—	dB
Output noise voltage	V _{no}	—	R _g = 10 kΩ, BW = 20 Hz~20 kHz	—	0.14	0.3	mV _{rms}
Cross talk	C.T.	—	R _g = 0, V _{out} = 0.775 V _{rms} 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 V _{rms} → Mute Three channels input	-52	-60	—	dB

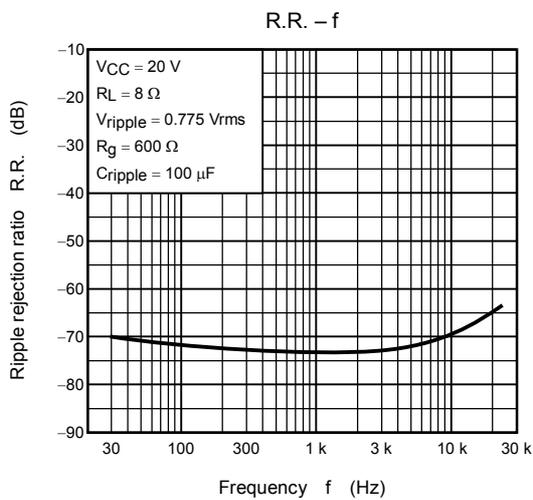
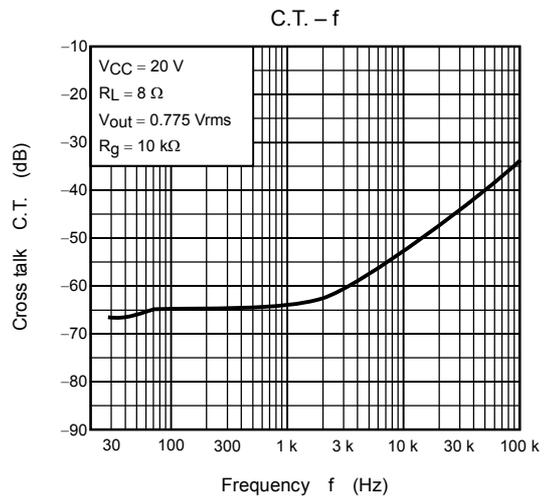
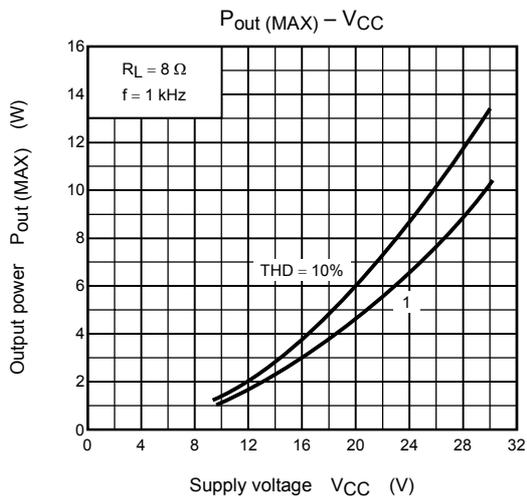
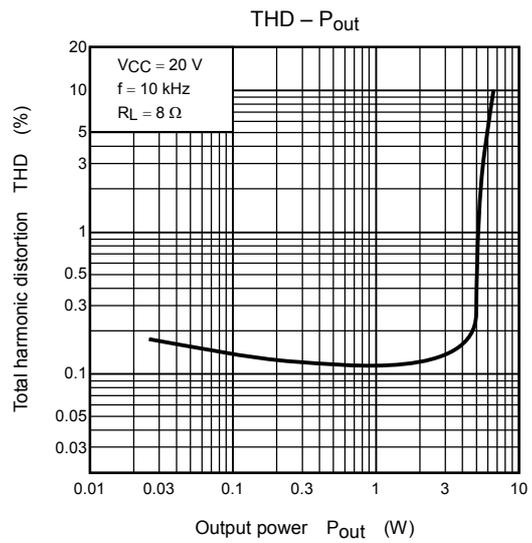
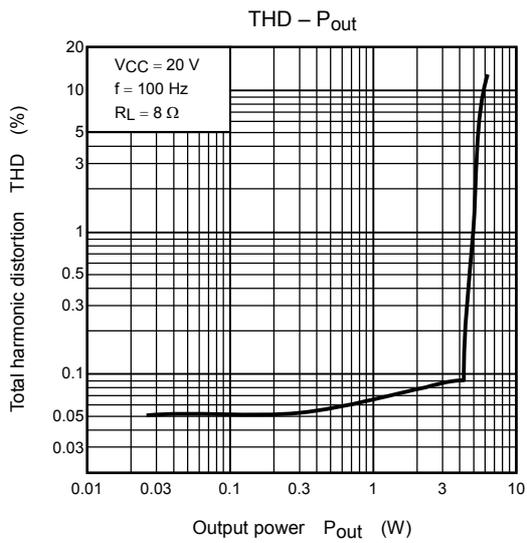
Test Circuit

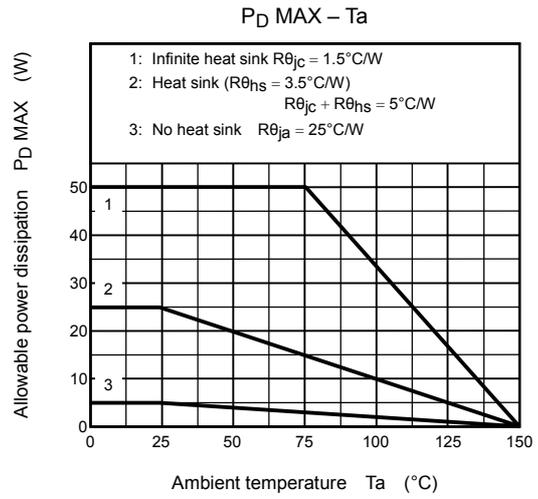
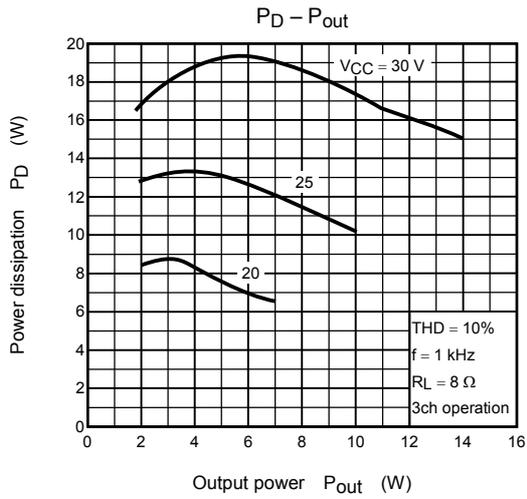


- *1 16/11 pin LOW: mute ON
 Mute ON : $V_{th} 16/11 = 2.8 \text{ V (Typ.)}$ ($V_{CC} = 20 \text{ V}$, $T_a = 25^\circ\text{C}$)
 Mute OFF: $V_{th} 16/11 = 3.7 \text{ V (Typ.)}$ ($V_{CC} = 20 \text{ V}$, $T_a = 25^\circ\text{C}$)

- *2 The capacitor for reducing POP noise at mute ON



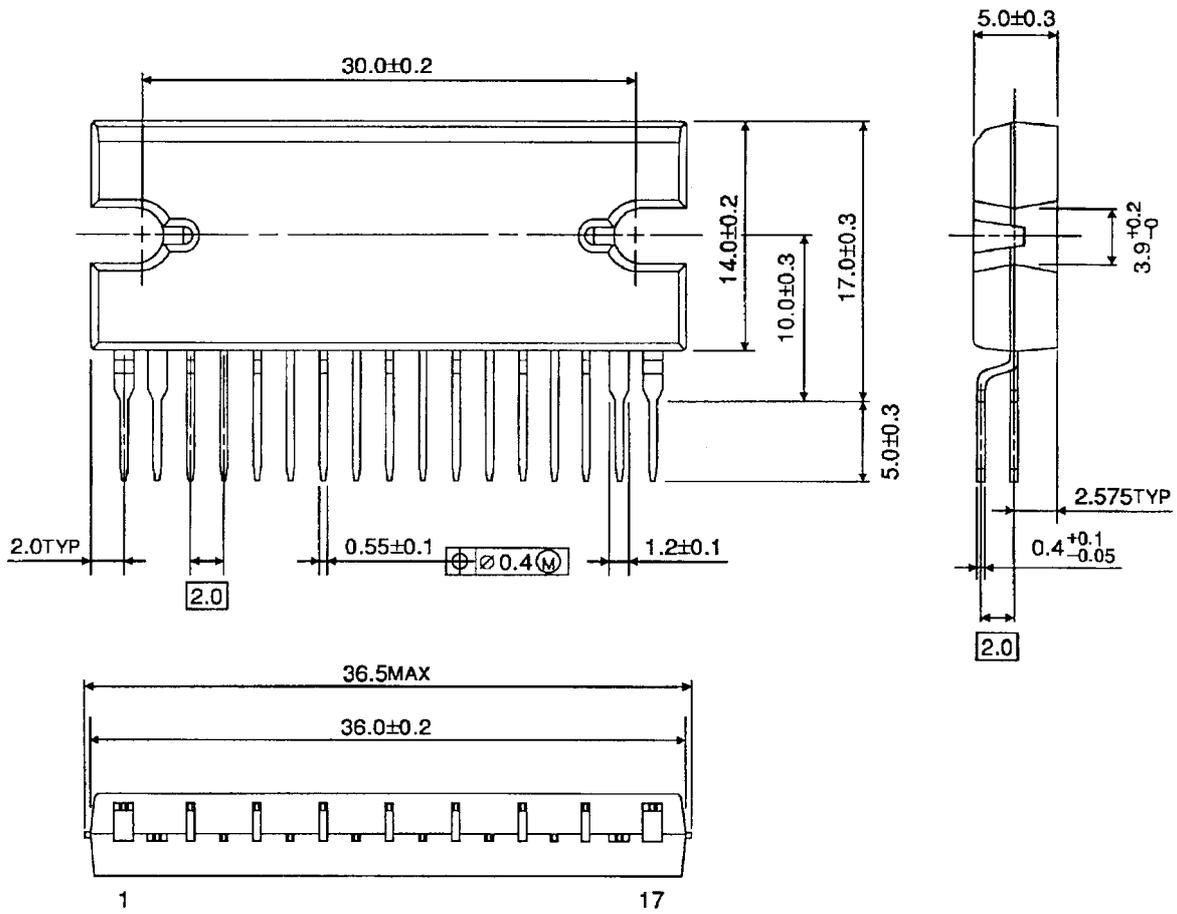




Package Dimensions

HZIP17-P-2.00

Unit : mm



Weight: 9.8 g (typ.)

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