

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

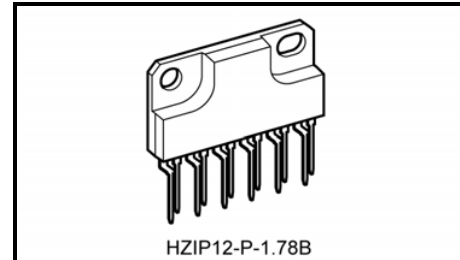
# TA8246AHQ

Dual Audio Power Amplifier 6 W × 2 Ch

TA8246AHQ is dual 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.

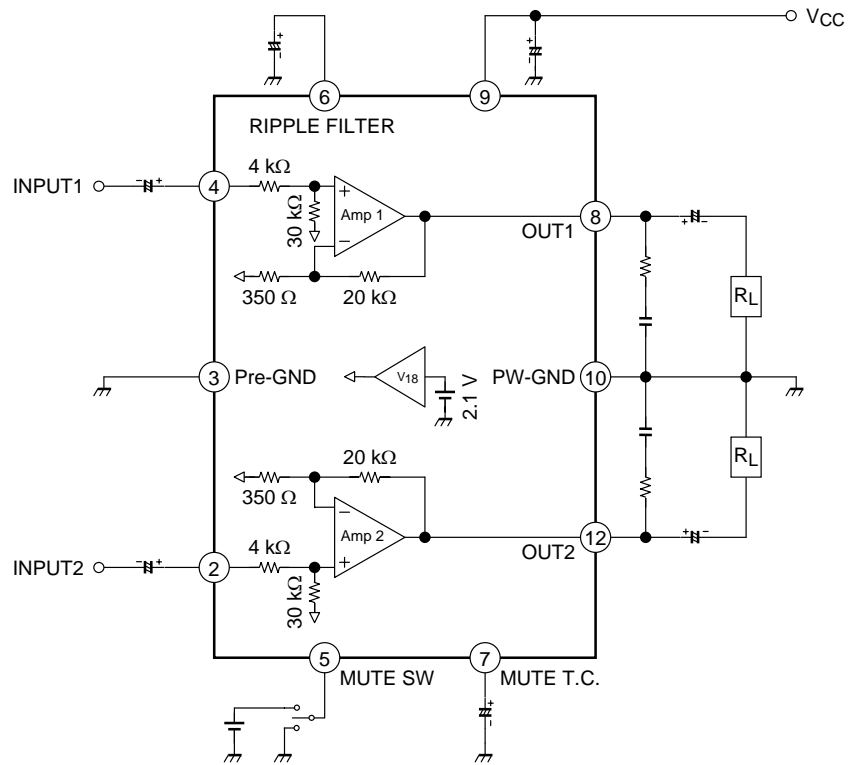
## Features

- High output power:  $P_{\text{out}} = 6\text{ W}$  (Typ.)  
( $V_{CC} = 20\text{ V}$ ,  $R_L = 8\ \Omega$ ,  $f = 1\text{ kHz}$ ,  $\text{THD} = 10\%$ )
- Built-in audio muting circuit.
- NF terminal capacitor less
  - : Fixed gain ( $G_v = 34\text{dB}$ ), needless external capacitor.
- Protectors
  - : Thermal shut down protection circuit, over voltage protection circuit
- Low popping noise
- High THD ratio
- High input dynamic range
- Available for using same PCB layout with 3 channel IC: TA8256BHQ
- Operating supply voltage range
  - :  $V_{CC(\text{opr})} = 10\sim 30\text{ V}$  ( $T_a = 25^\circ\text{C}$ )



Weight: 4.04 g (typ.)

## Block Diagram



**Terminal Explanation**

Terminal No.	Symbol	Function	Equivalent Circuit
2	IN2	Input	
4	IN1		
3	Pre-GND	GND terminal	—
5	MUTE SW	MUTE control terminal	
7	MUTE T.C.		
6	R/F	Ripple filter	
8	OUT1	Output	
12	OUT2		
9	VCC	Supply voltage terminal	—
10	PW-GND	GND terminal	—

1, 11: NC

## 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)

Characteristic	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	30	V
Output current (peak/ch)	I <sub>O</sub> (peak)	2	A
Power dissipation	P <sub>D</sub> (Note)	25	W
Operating temperature	T <sub>opr</sub>	-20~75	°C
Storage temperature	T <sub>stg</sub>	-55~150	°C

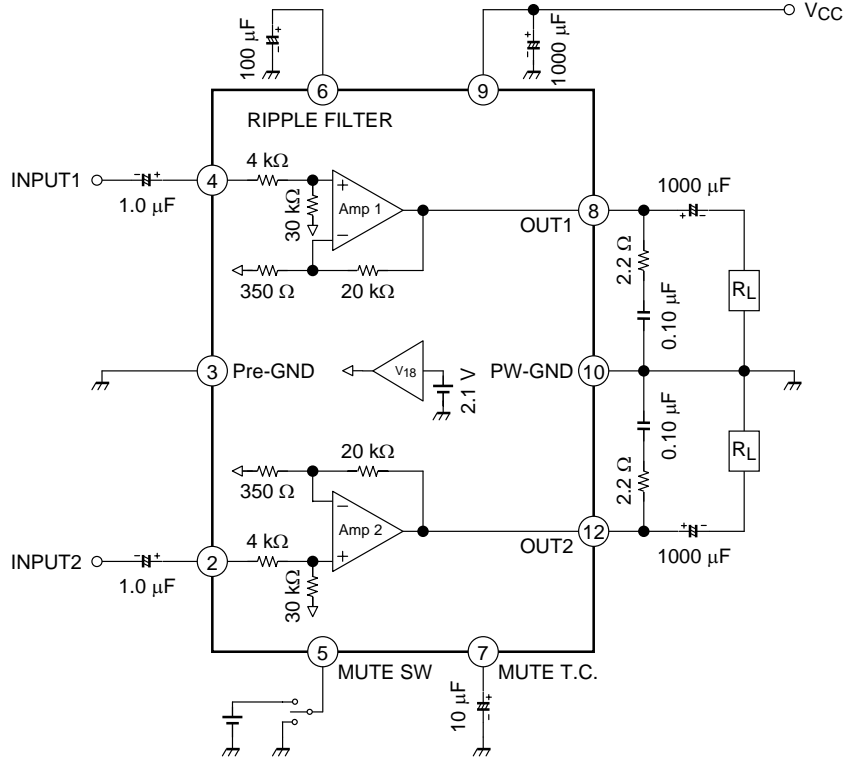
Note: Derated above Ta = 25°C in the proportion of 200 mW/°C.

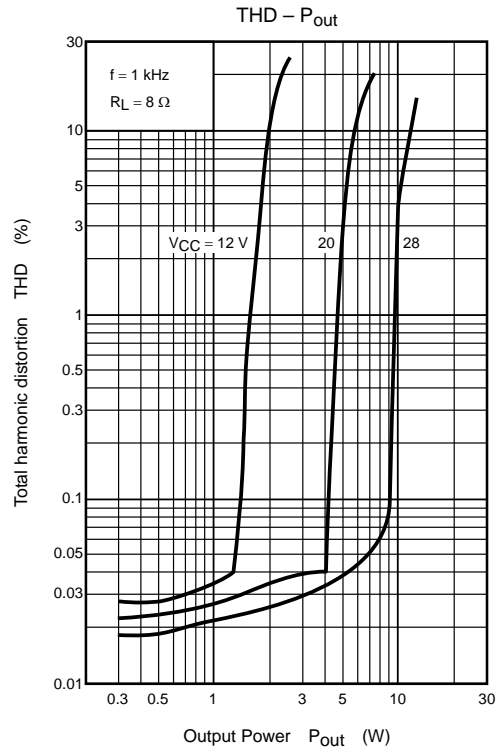
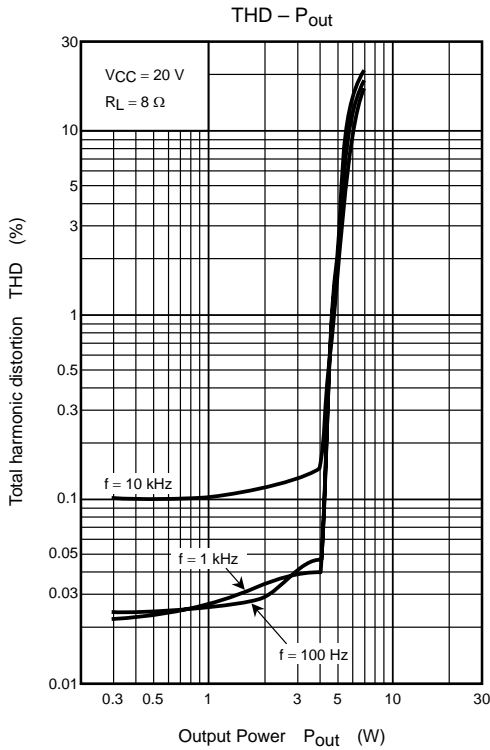
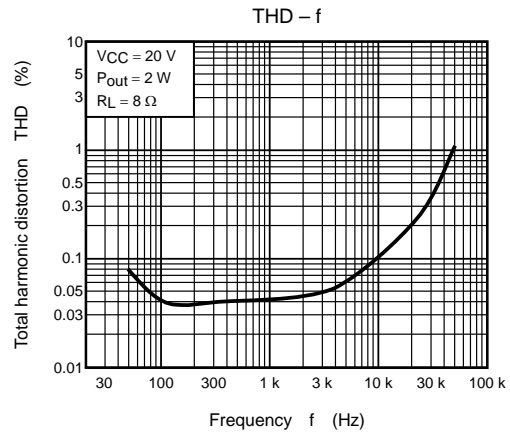
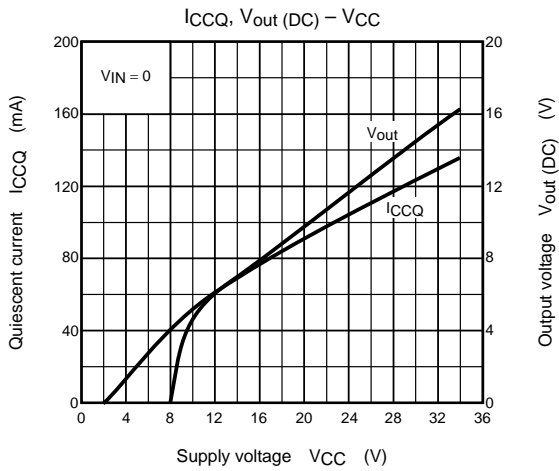
## Electrical Characteristics

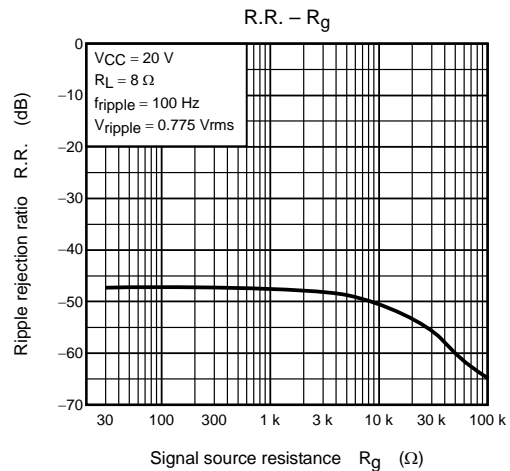
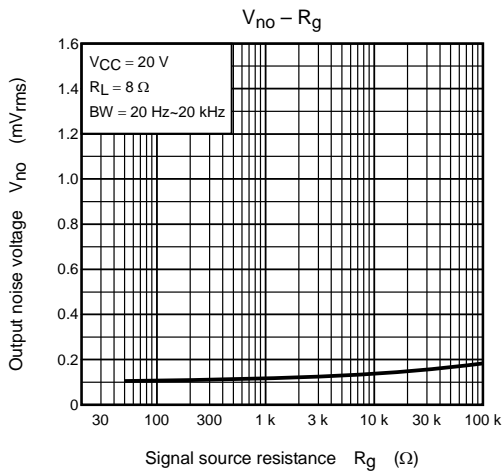
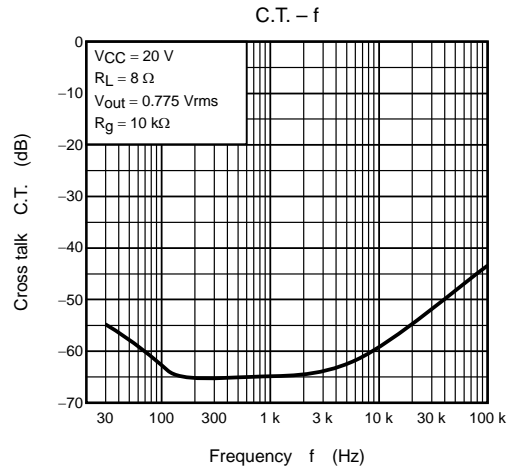
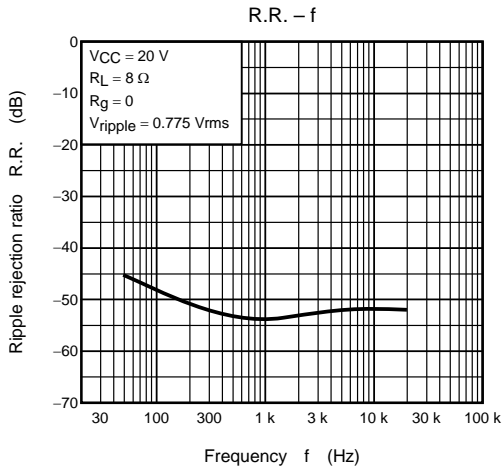
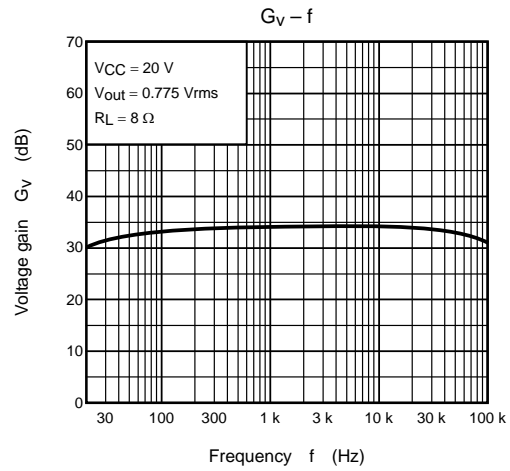
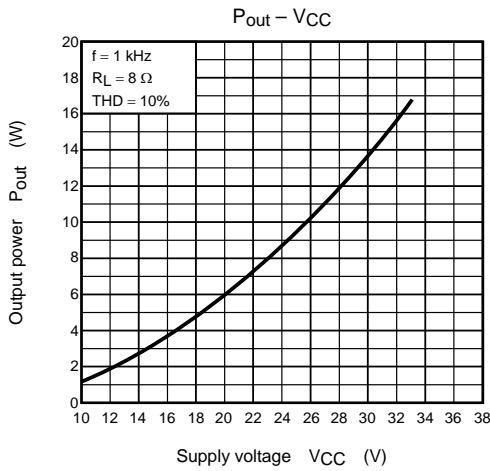
(Unless otherwise specified, V<sub>CC</sub> = 20 V, R<sub>L</sub> = 8 Ω, R<sub>g</sub> = 620 Ω, f = 1 kHz, Ta = 25°C)

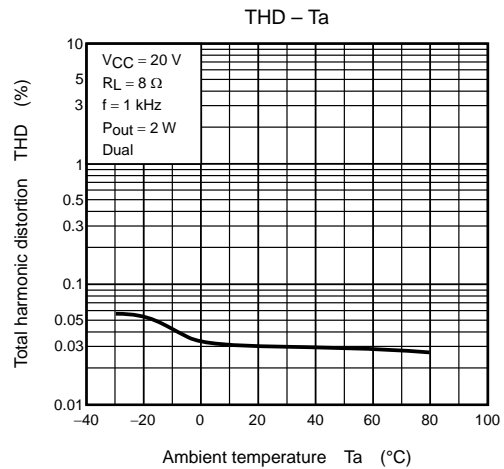
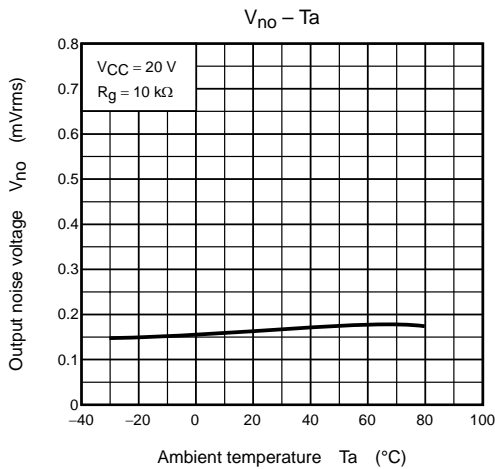
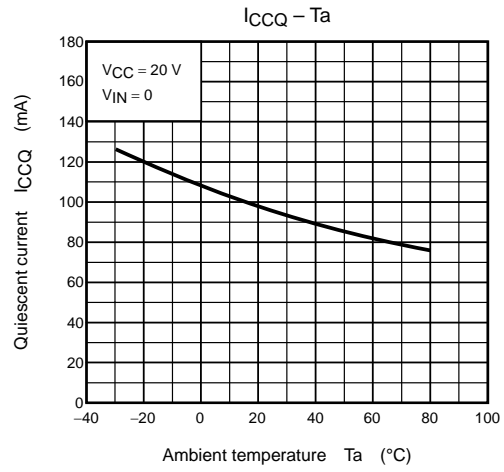
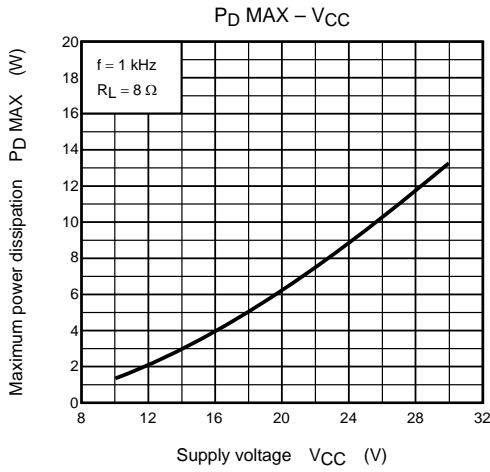
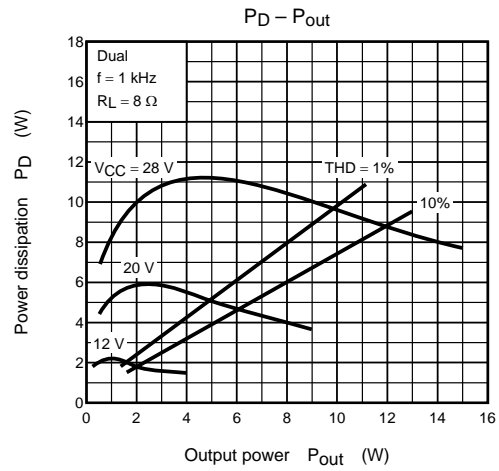
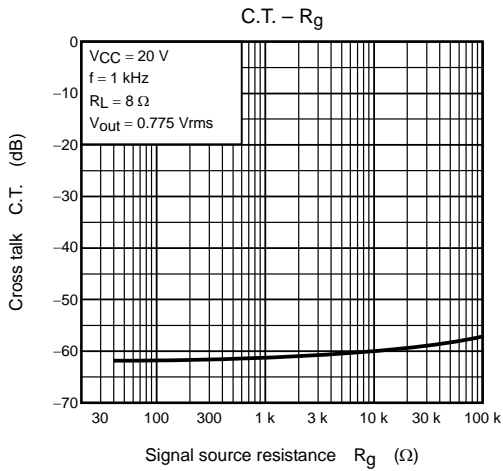
Characteristic	Symbol	Test Circuit	Test Condition	Min.	Typ.	Max	Unit
Quiescent current	I <sub>CCQ</sub>	—	V <sub>in</sub> = 0	50	85	130	mA
Output power	P <sub>out</sub> (1)	—	THD = 10%	5	6	—	W
	P <sub>out</sub> (2)	—	THD = 1%	—	4.5	—	
Total harmonic distortion	THD (1)	—	P <sub>out</sub> = 2 W	—	0.04	0.2	%
	THD (2)	—	P <sub>out</sub> = 2 W, f = 10 kHz,	—	0.1	0.6	
Voltage gain	G <sub>v</sub>	—	V <sub>out</sub> = 0.775 V <sub>rms</sub>	32.5	34	35.5	dB
Input resistance	R <sub>IN</sub>	—	—	—	34	—	kΩ
Ripple rejection ratio	R.R.	—	f = 100 Hz	-40	-47	—	dB
Output noise voltage	V <sub>no</sub>	—	R <sub>g</sub> = 10 kΩ, BW = 20 Hz~20 kHz	—	0.14	0.3	mV <sub>rms</sub>
Cross talk	C.T.	—	R <sub>g</sub> = 10 kΩ, V <sub>out</sub> = 0.775 V <sub>rms</sub>	—	-60	—	dB
Mute control voltage	V <sub>th</sub> (ON)	—	MUTE ON	3.1	—	V <sub>CC</sub>	V
	V <sub>th</sub> (OFF)	—	MUTE OFF	0	—	2.5	
Mute attenuation level	ATT	—	V <sub>out</sub> = 0.775 V <sub>rms</sub> → Mute	-52	-60	—	dB

## Test Circuit

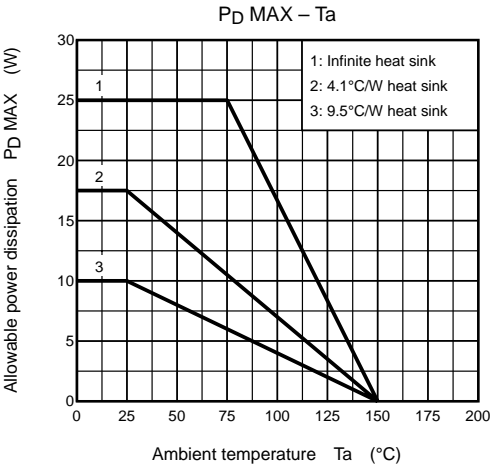








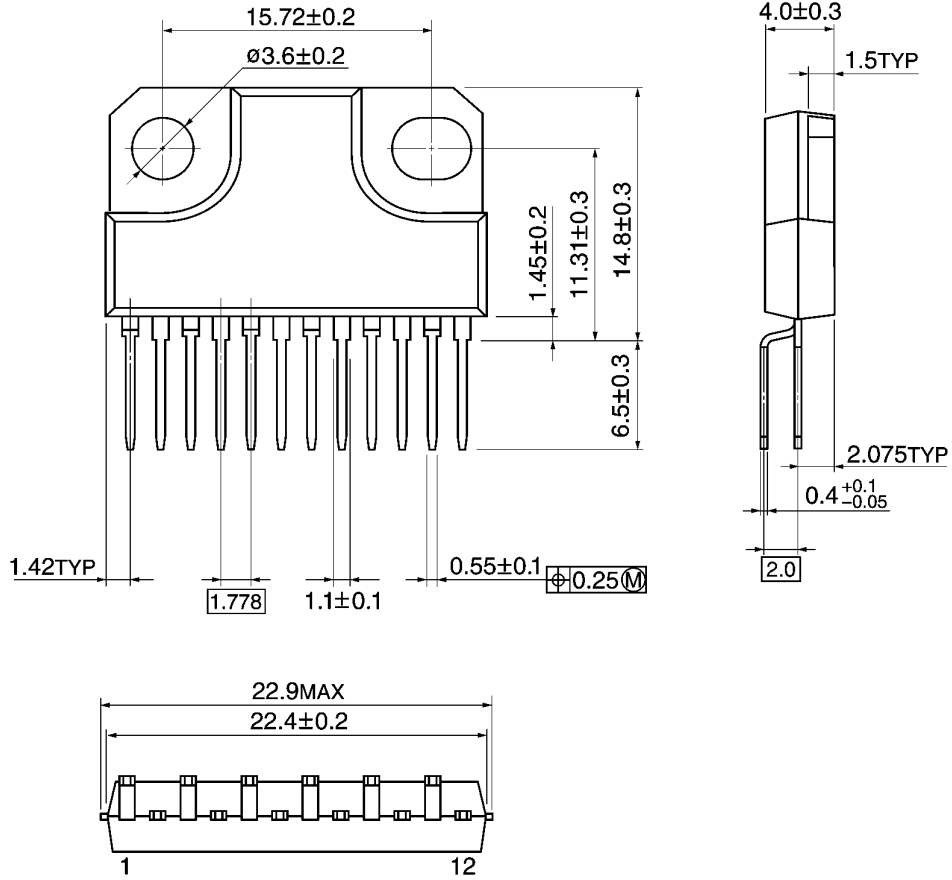




## Package Dimensions

HZIP12-P-1.78B

Unit: mm



Weight: 4.04 g (typ.)

About solderability, following conditions were confirmed

- Solderability
  - (1) Use of Sn-63Pb solder Bath
    - solder bath temperature = 230°C
    - dipping time = 5 seconds
    - the number of times = once
    - use of R-type flux
  - (2) Use of Sn-3.0Ag-0.5Cu solder Bath
    - solder bath temperature = 245°C
    - dipping time = 5 seconds
    - the number of times = once
    - use of R-type flux

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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.