

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

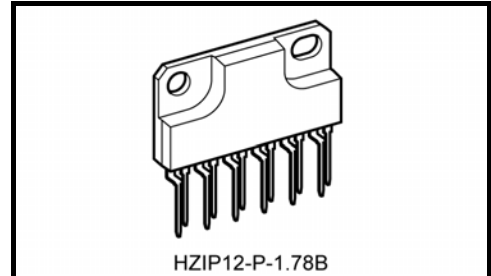
TA8256BHQ

Audio Power Amplifier 6 W × 3 Ch

TA8256BHQ is 3 channel 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.

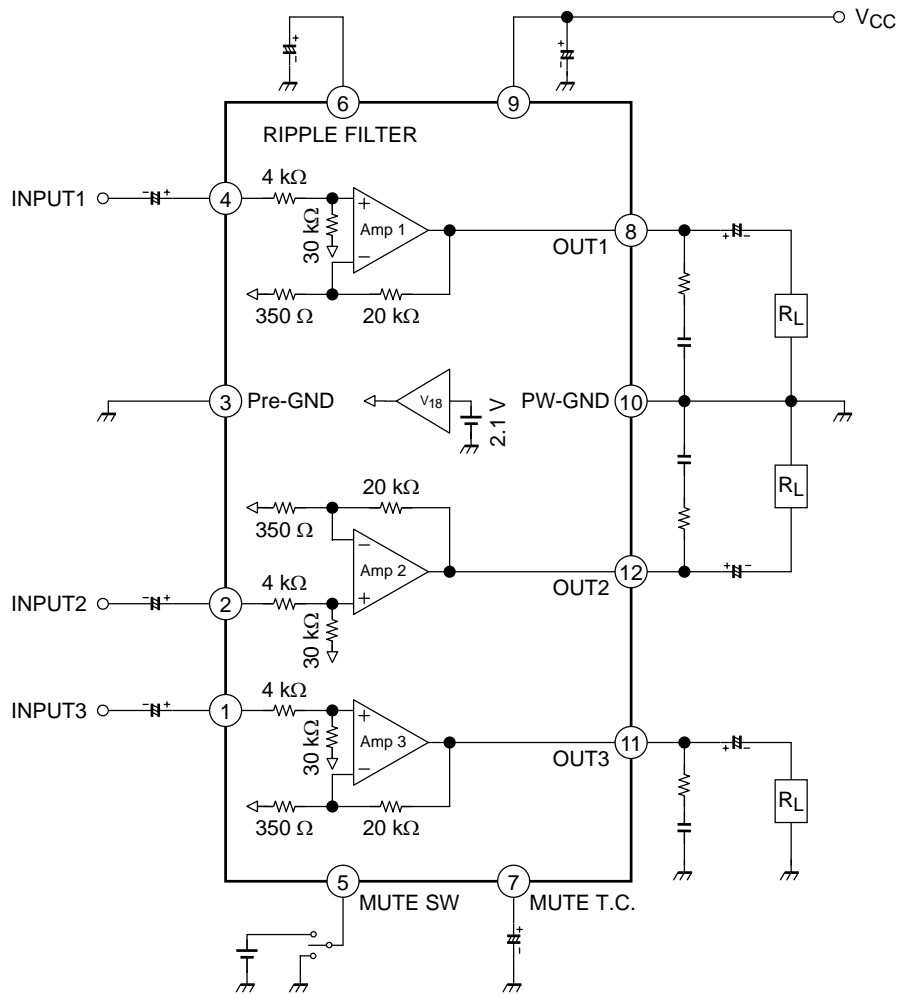


Weight: 4.04 g (typ.)

Features

- High output power: $P_{out} = 6\text{ W}$ (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 2 channel IC: TA8246AH
- Operating supply voltage range: $V_{CC}(\text{opr}) = 10\text{ to }30\text{ V}$ ($T_a = 25^\circ\text{C}$)

Block Diagram



Terminal Explanation

Terminal No.	Symbol	Function	Equivalent Circuit
1	IN3	Input	
2	IN2		
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	
11	OUT3		
12	OUT2		
9	V _{CC}	Supply voltage terminal	—
10	PW-GND	GND terminal	—

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 _{CC}	30	V
Output current (peak/ch)	I _O (peak)	2	A
Power dissipation	P _D (Note)	25	W
Operating temperature	T _{opr}	-20 to 75	°C
Storage temperature	T _{stg}	-55 to 150	°C

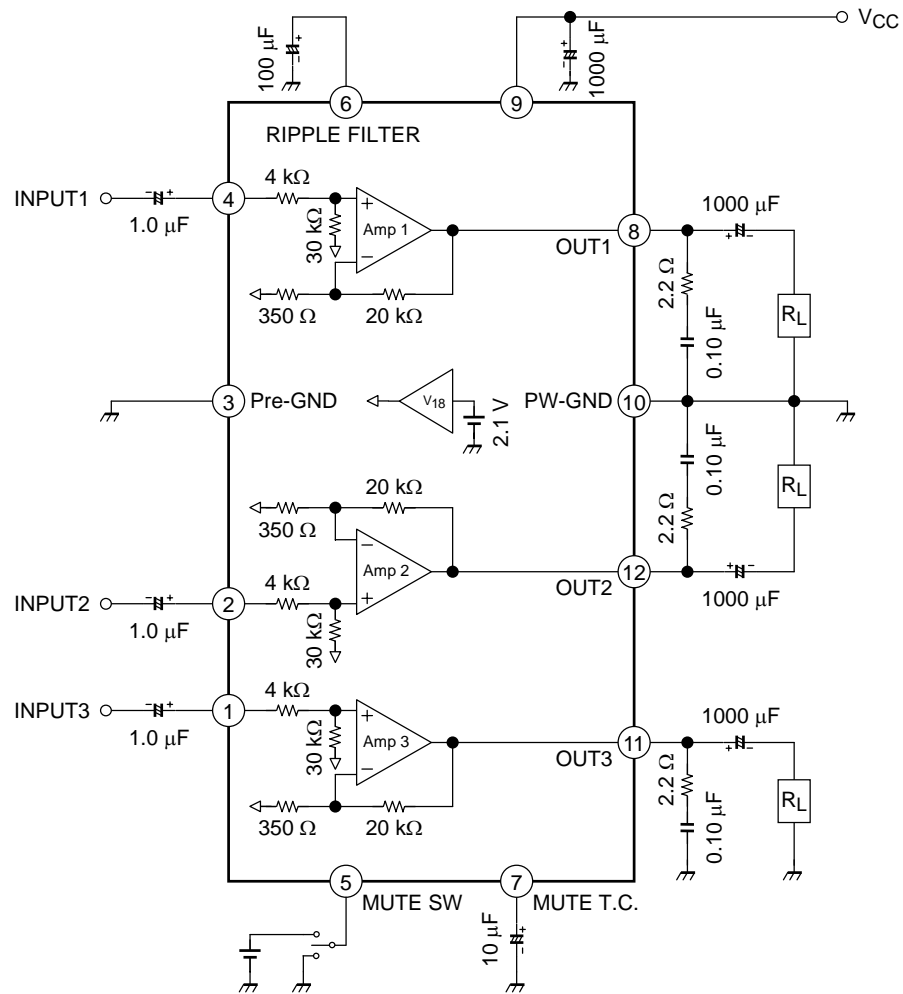
Note: Derated above Ta = 25°C in the proportion of 200 mW/°C.

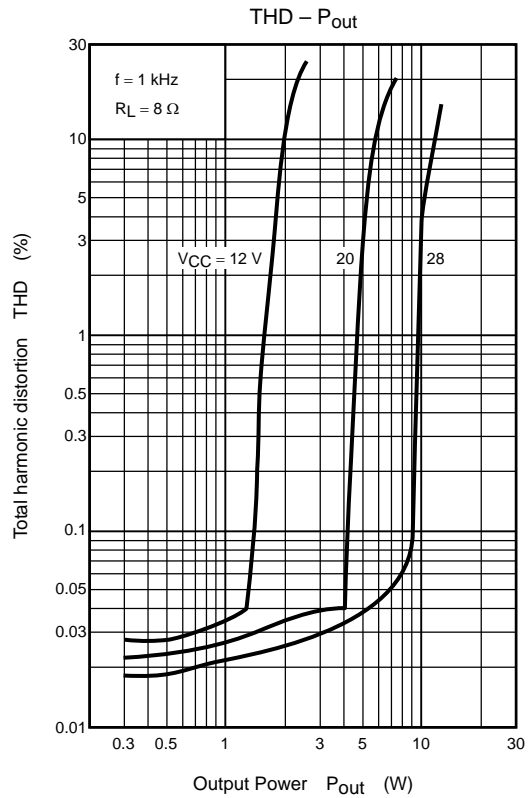
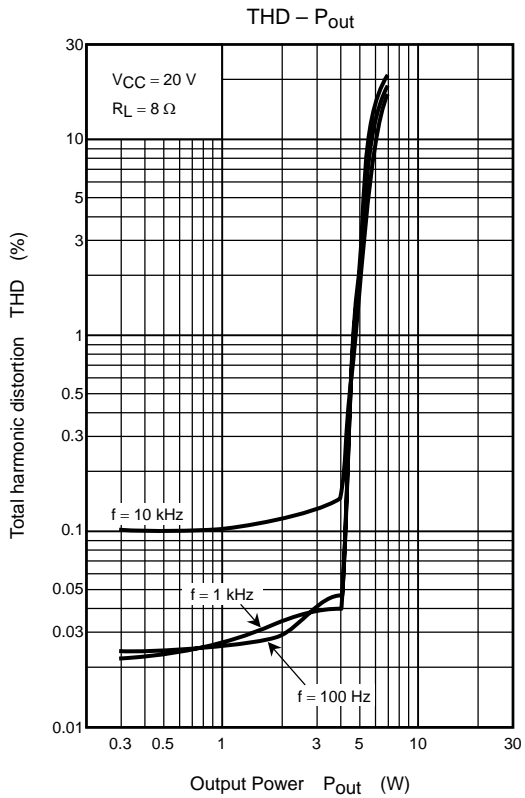
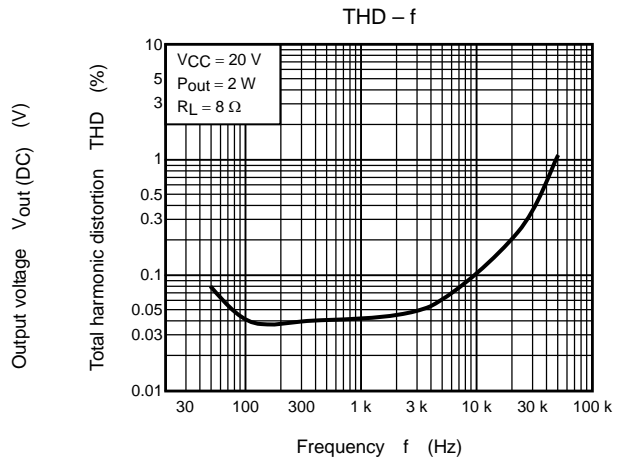
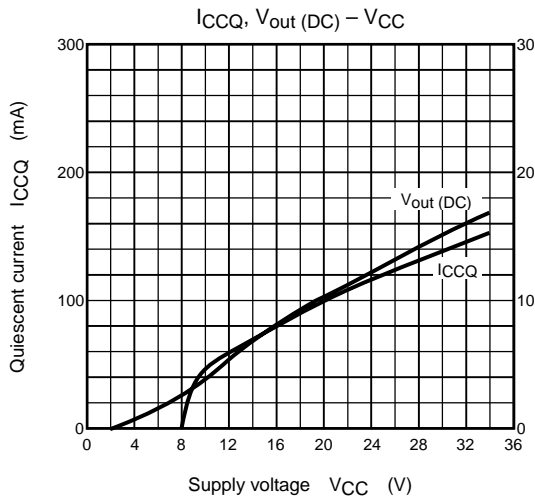
Electrical Characteristics

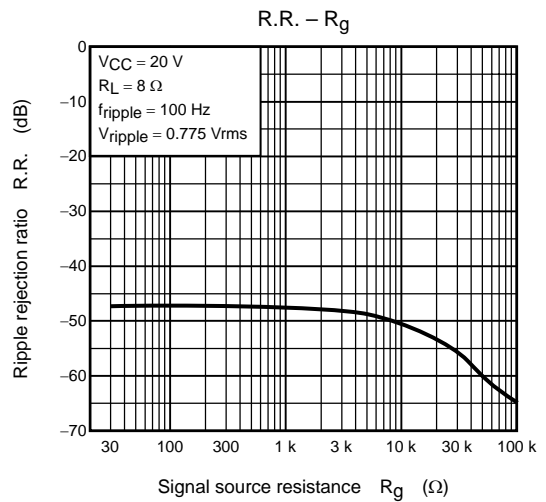
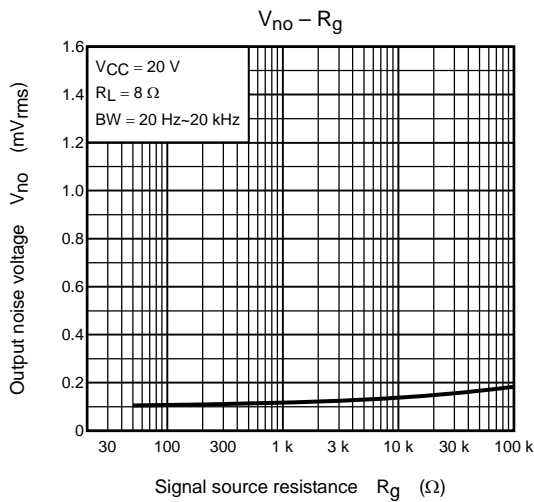
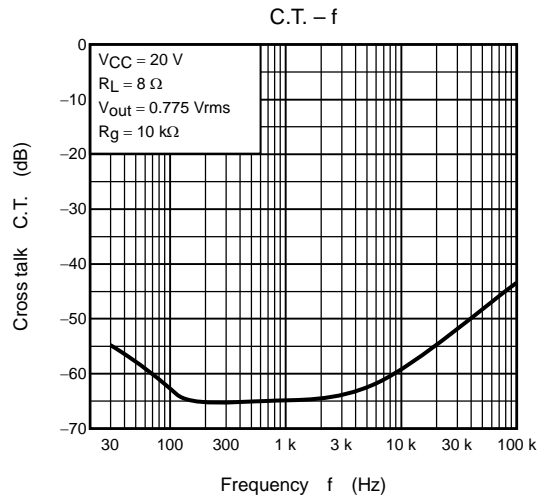
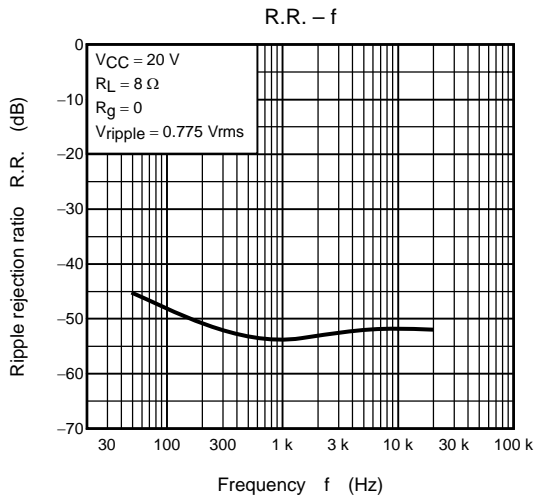
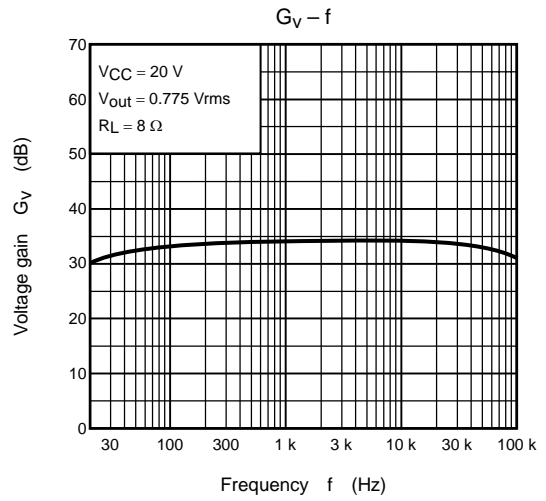
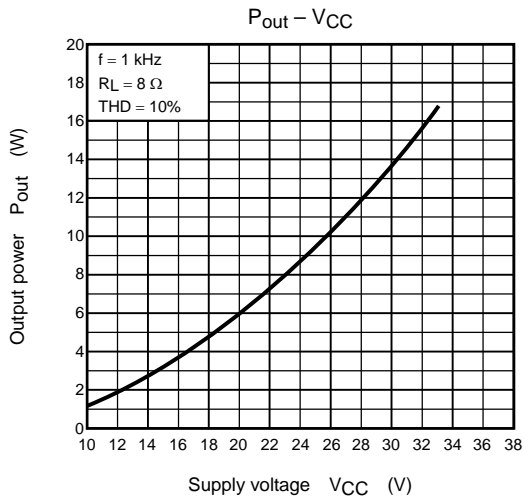
(Unless otherwise specified, V_{CC} = 20 V, R_L = 8 Ω, R_g = 620 Ω, f = 1 kHz, Ta = 25°C)

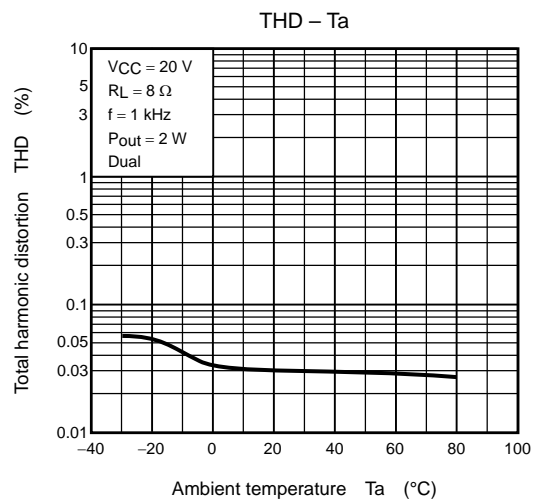
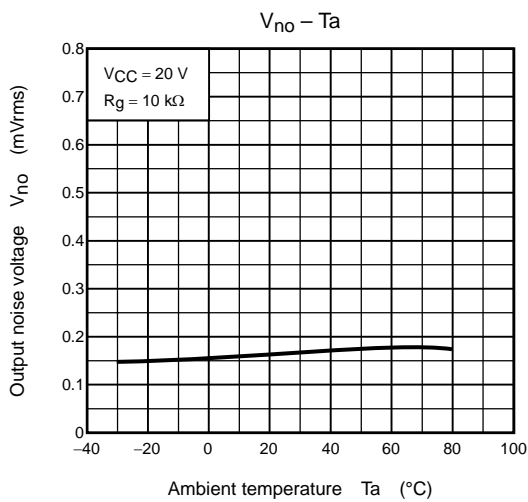
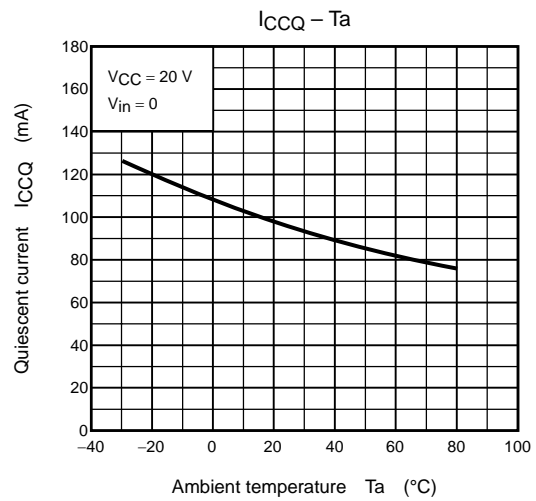
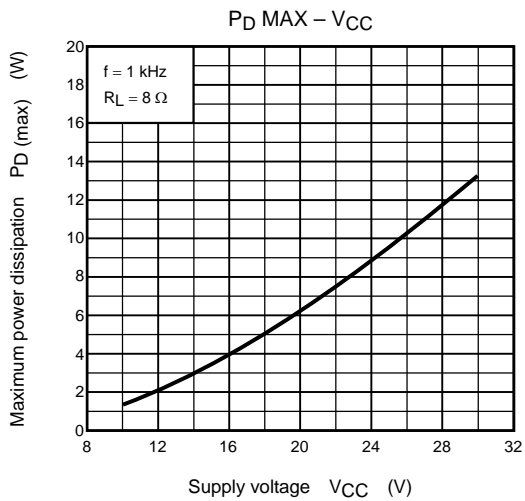
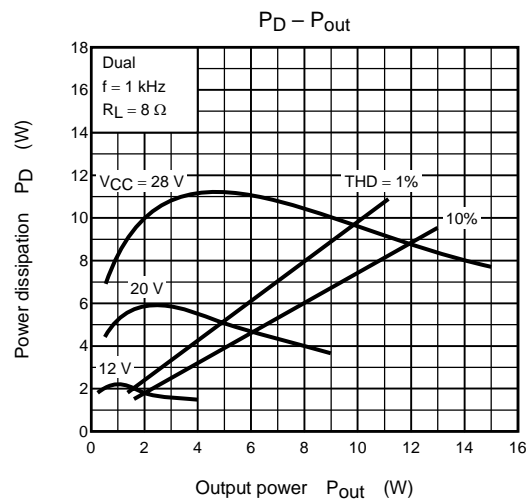
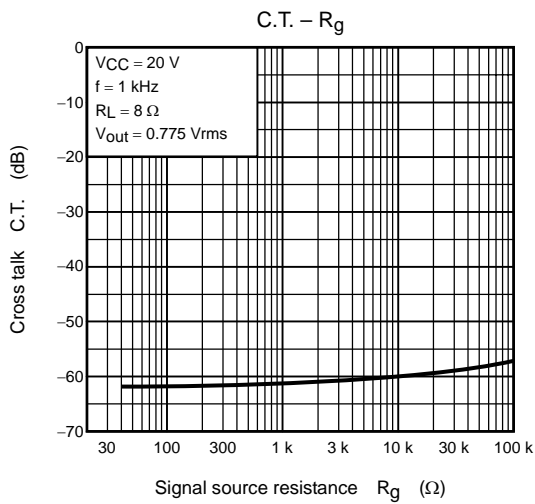
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Quiescent current	I _{CCQ}	—	V _{in} = 0	65	100	180	mA
Output power	P _{out} (1)	—	THD = 10%	5	6	—	W
	P _{out} (2)	—	THD = 1%	—	4.5	—	
Total harmonic distortion	THD (1)	—	P _{out} = 2 W	—	0.04	0.2	%
	THD (2)	—	P _{out} = 2 W, f = 10 kHz	—	0.1	0.6	
Voltage gain	G _v	—	V _{out} = 0.775 V _{rms}	32.5	34	35.5	dB
Input resistance	R _{IN}	—	—	—	34	—	kΩ
Ripple rejection ratio	R.R.	—	f = 100 Hz, V _{ripple} = 0.775 V _{rms}	-40	-47	—	dB
Output noise voltage	V _{no}	—	R _g = 10 kΩ, BW = 20 Hz to 20 kHz	—	0.14	0.3	mV _{rms}
Cross talk	C.T.	—	V _{out} = 0.775 V _{rms}	—	-60	—	dB
Mute control voltage	V _{th} (ON)	—	MUTE ON	3.1	—	V _{CC}	V
	V _{th} (OFF)	—	MUTE OFF	0	—	2.5	
Mute attenuation level	ATT	—	V _{out} = 0.775 V _{rms} → Mute	-52	-60	—	dB

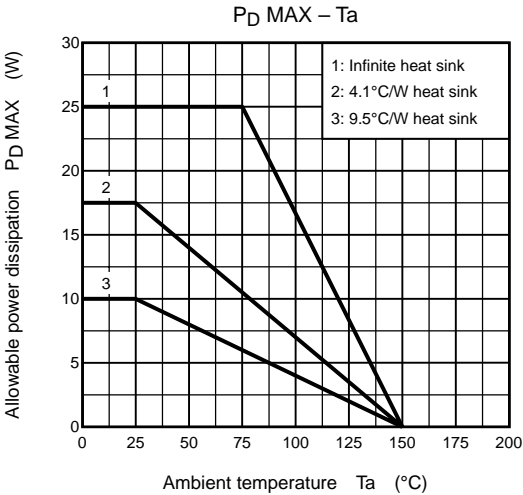
Test Circuit







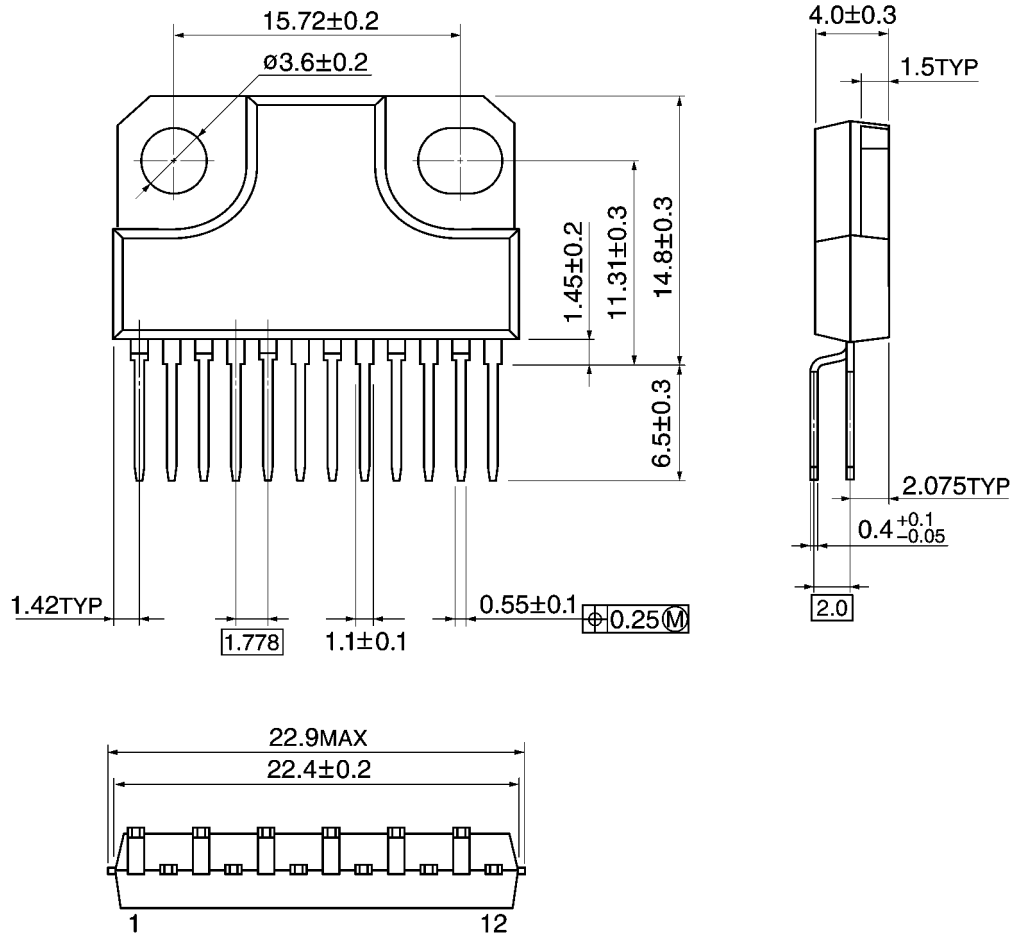




Package Dimensions

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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