

# BIPOLAR ANALOG INTEGRATED CIRCUIT

# $\mu$ PC1188H

## 20 W AUDIO POWER AMPLIFIER

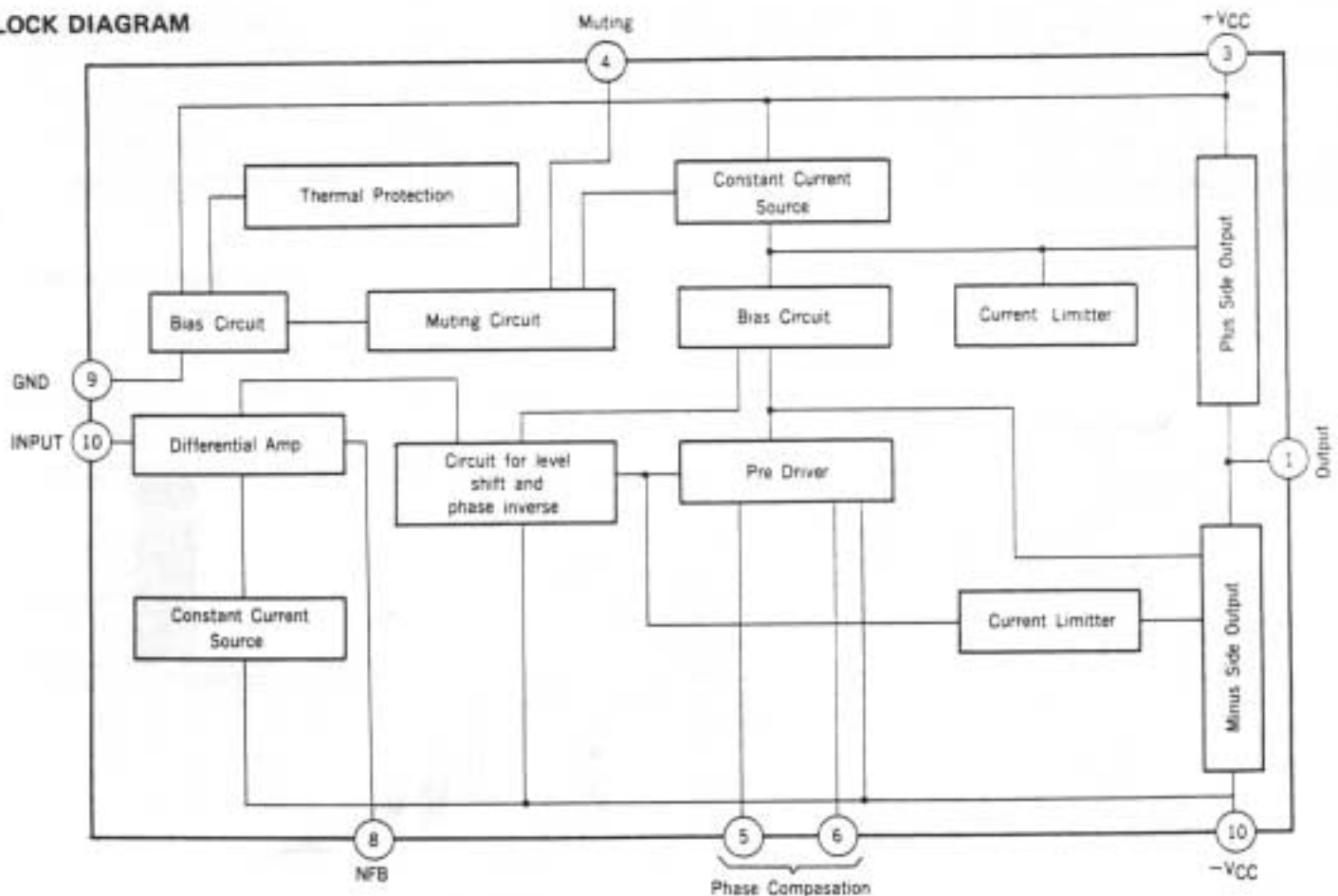
### DESCRIPTION

The  $\mu$ PC1188H is a monolithic integrated circuit and a power amplifier designed for Hi-Fi audio sets and in a 10pin Single In-Line plastic package.  $\mu$ PC1188H can provide 20 W (TYP.) to 8 ohms at 1 % T.H.D. and  $\pm 22$  V Supply voltage.

### FEATURES

- High output power. 20 W TYP. ( $V_{CC} = \pm 22$  V,  $A_V = 40$  dB,  $f = 20$  Hz ~ 20 kHz,  $R_L = 8 \Omega$ , T.H.D. = 1 %)  
20 W TYP. ( $V_{CC} = \pm 22$  V,  $A_V = 27.5$  dB,  $f = 20$  Hz ~ 20 kHz,  $R_L = 8 \Omega$ , T.H.D. = 0.5 %)
- Low distortion. 0.02 % TYP. ( $V_{CC} = \pm 22$  V,  $A_V = 40$  dB,  $f = 1$  kHz,  $R_L = 8 \Omega$ ,  $P_{out} = 5.0$  W)  
0.005 % TYP. ( $V_{CC} = \pm 22$  V,  $A_V = 27.5$  dB,  $f = 1$  kHz,  $R_L = 8 \Omega$ ,  $P_{out} = 5.0$  W)
- Wide frequency band width.  $f = 250$  kHz (-3 dB)
- $\mu$ PC1188H has a muting function which eliminates pop on noise and the thermal and the over current protection circuit.
- Available for NFB tone control amp.

### BLOCK DIAGRAM



**ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)**

Supply Voltage (Quiescent)	V <sub>CC</sub>	± 30	V
Circuit Current	I <sub>CC(peak)</sub>	5	A
Package Dissipation	P <sub>D</sub>	30*	W
Operating Temperature	T <sub>opt</sub>	-20 to +70	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance Junction to Case	R <sub>th(j-c)</sub>	3	°C/W

\* T<sub>tab</sub> = 60 °C

**RECOMMENDED OPERATING CONDITIONS (Ta = 25 °C)**

CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT
Operating Supply Voltage	± 17	± 22	± 23	V
Input Impedance	47	56	100	kΩ
Closed Loop Voltage Gain	26	40		dB
Load Impedance	4	8		Ω

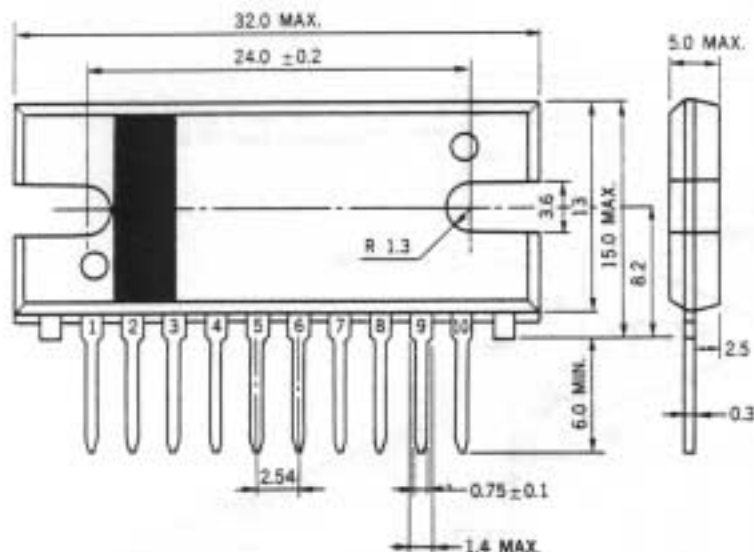
**ELECTRIC CHARACTERISTICS (V<sub>CC</sub> = ± 22 V, A<sub>V</sub> = 40 dB, R<sub>L</sub> = 8 Ω, R<sub>G</sub> = 600 Ω, Ta = 25 °C)**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Output Offset Voltage	V <sub>IO</sub>	-100	0	+100	mV	No Signal
Circuit Current	I <sub>CC</sub>	30	60	120	mA	No Signal
Output Power	P <sub>O</sub>	16	18		W	T.H.D. = 0.5 %, f = 20 Hz - 20 kHz
Open Loop Voltage Gain	A <sub>vo</sub>	65	75		dB	P <sub>O</sub> = 0.3 W, f = 1 kHz
Total Harmonic Distortion	T.H.D.		0.1	0.3	%	P <sub>O</sub> = 10 W, f = 20 Hz - 20 kHz
Output Noise Voltage	NV		0.4	1.0	mV	R <sub>G</sub> = 2.2 kΩ, No Filter
Power Band Width	P.B.W.		250		kHz	P <sub>O</sub> = 0.3 W, -3 dB
Supply Voltage Rejection Ratio	S.V.R.	50	56		dB	R <sub>G</sub> = 2.2 kΩ, fripple = 100 Hz

**PACKAGE DIMENSION**

Unit: mm

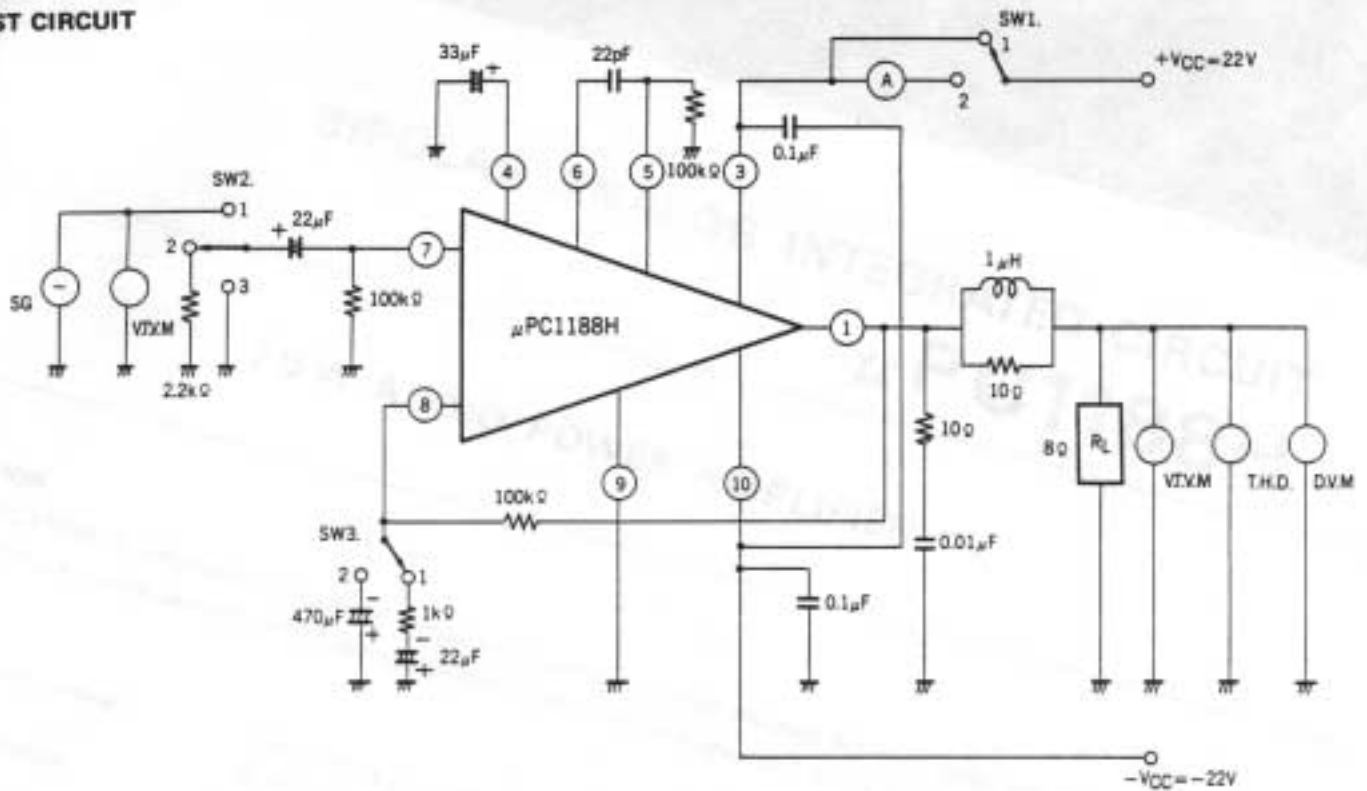
Typical value unless otherwise noted



**CONNECTION DIAGRAM**

1	OUTPUT
2	NC
3	+V <sub>CC</sub>
4	MUTING
5	PHASE COMP
6	PHASE COMP
7	INPUT
8	NFB
9	GND
10	-V <sub>CC</sub>

TEST CIRCUIT



NOTE: Turn on plus and minus power supply at the same time or minus power supply at first.

ITEM	SYMBOL	SW1	SW2	SW3
Circuit Current	$I_{CC}$	2	3	1
Output Offset Voltage	$V_{IO}$	1	3	1
Output Power	$P_O$	1	1	1
Open Loop Voltage Gain	$A_{VO}$	1	1	2
Total Harmonic Distortion	T.H.D.	1	1	1
Output Noise Voltage	NV	1	2	1
Supply Voltage Rejection Ratio	SVR	1	2	1

APPLICATION CIRCUIT

