

**FUJITSU**

# 6 WATT AUDIO AMPLIFIER

**MB 3714A  
MB 3715A**June 1986  
Edition 1.0**MB 3714A/MB 3715A  
6 Watt Audio Amplifier**

The Fujitsu MB 3714A and MB 3715A are monolithic integrated circuits of 6 Watt audio power amplifiers packaged in plastic single in-line package (SIP) with heat radiation fin.

The MB 3714A/MB 3715A are designed to reduce output distortion and power-on pop noise, working at high gain and high output power.

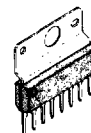
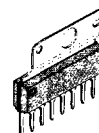
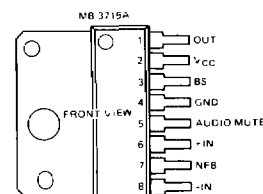
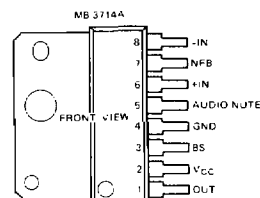
The MB 3714A and MB 3715A can drive even 2 ohm load and are designed against breakdown by load short and supply voltage surge. The packages are protected to mis-mounting with biased hole on the fin.

- High Power: 6.0 W typ/4 $\Omega$ , 10.0 W typ/2 $\Omega$
- High Gain: 52.5 dB typ.
- Low Distortion
- Small Plastic 8-pin Single In-Line Package with Easily Heat Radiation and Mis-Mounting-Proof Form
- Minimum External Components
- Low Power-on Pop Noise
- Low Impedance Load: 2 $\Omega$  Load
- Audio Mute Circuit
- Various Protection Circuits
- Power Supply Surge Protection
- Thermal Protection
- Load Short Protection

**ABSOLUTE MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	18	V
Supply Voltage (Surge) (t <sub>s</sub> $\leq$ 0.2 ms, t <sub>r</sub> $\geq$ 1 ms)	V <sub>CCS</sub>	40	V
Output Current (Peak)	I <sub>OP</sub>	4.5	A
Power Dissipation (T <sub>C</sub> $\leq$ 75°C)	P <sub>D</sub>	7.5	W
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

**NOTE:** Permanent device damage may occur if ABSOLUTE MAXIMUM RATINGS are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**MB 3714A  
PLASTIC PACKAGE  
SIP-08P-M01****MB 3715A  
PLASTIC PACKAGE  
SIP-08P-M04****PIN ASSIGNMENT**

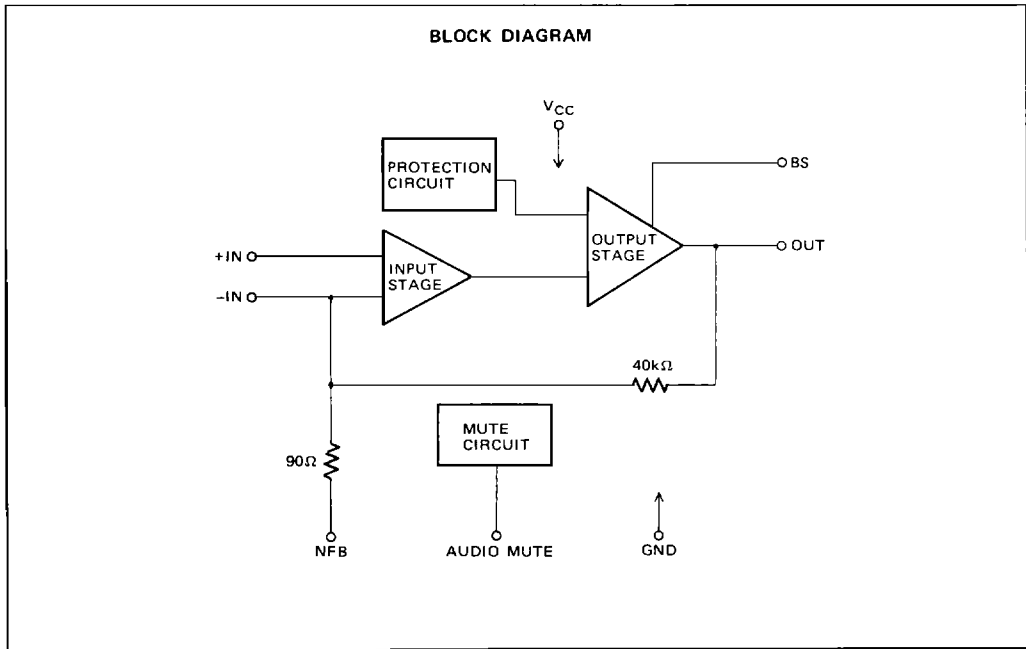
This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields. However, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit.

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### RECOMMENDED OPERATING CONDITIONS

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Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Supply Voltage	$V_{CC}$	8.0		16.0	V
Operating Ambient Temperature	$T_A$	-20		+75	$^{\circ}\text{C}$

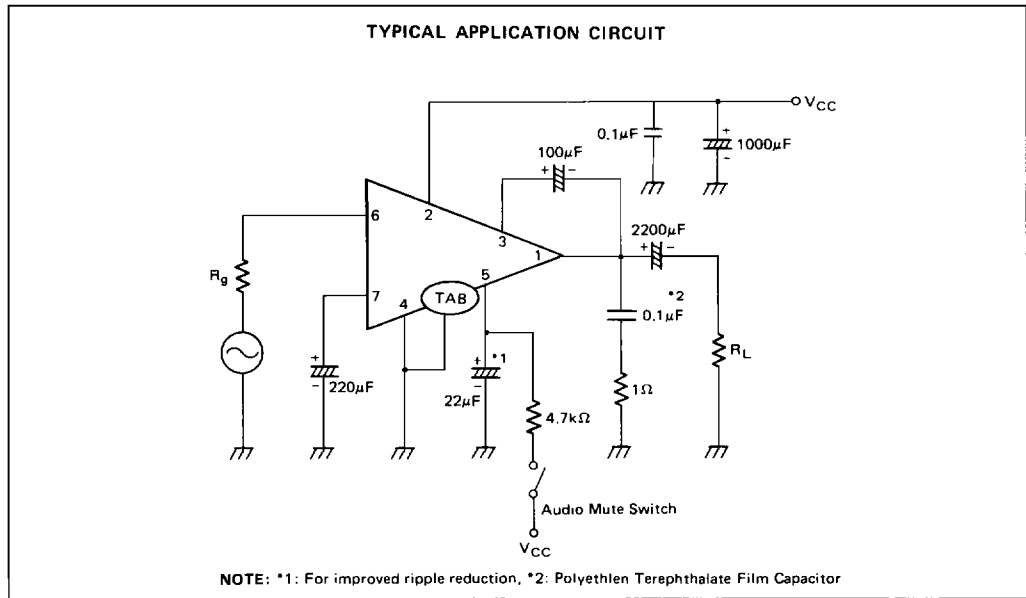


**ELECTRICAL CHARACTERISTICS**

( $T_C = 25^\circ\text{C}$ ,  $V_{CC} = 13.2\text{ V}$ ,  $R_L = 4\ \Omega$  and  $f = 1\text{ kHz}$ ,  $R_g = 600\ \Omega$  unless otherwise noted.)

Parameter	Condition	Symbol	Min	Typ	Max	Unit
Quiescent Power Supply Current	$V_{IN} = 0$	$I_Q$		30	60	mA
Voltage Gain	$P_O = 1\text{ W}$	$A_V$	50	52.5	55	dB
Output Power	THD = 10%	$P_O$	5.5	6.0		W
	THD = 10% $R_L = 2\ \Omega$		8.0	10.0		W
Output Noise Voltage	$R_g = 10\ \text{k}\Omega$ BW = 20 to 20 kHz	$V_{NO}$		1.0	2.0	mV
Total Harmonic Distortion	$P_O = 1\text{ W}$	THD		0.2	1.0	%
	$P_O = 1\text{ W}$ $R_L = 2\ \Omega$			0.3	1.0	%
Input Resistance		$R_{IN}$	20	30		$\text{k}\Omega$
Attenuation Ratio at Audio Mute Mode		ATT		46		dB

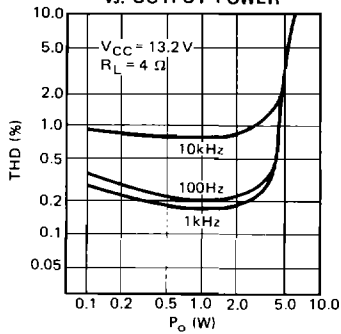
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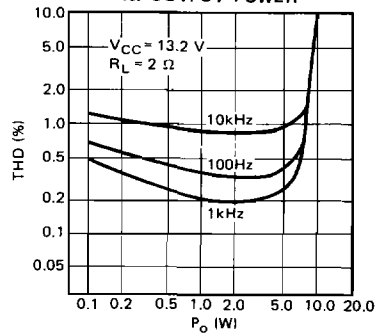


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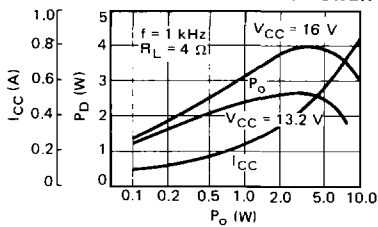
**TOTAL HARMONIC DISTORTION vs. OUTPUT POWER**



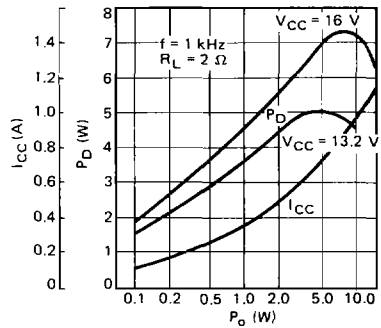
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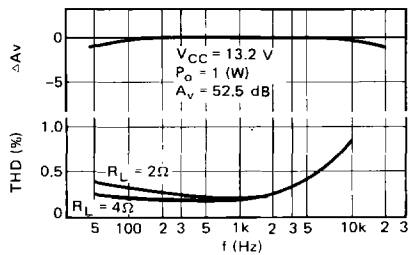
**POWER DISSIPATION/SUPPLY CURRENT vs. OUTPUT POWER**



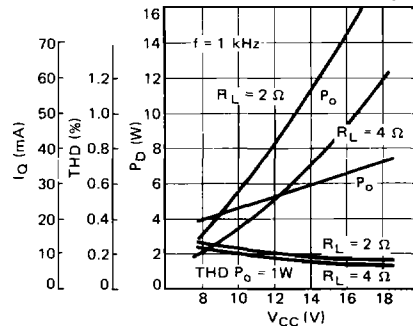
**POWER DISSIPATION/SUPPLY CURRENT vs. OUTPUT POWER**



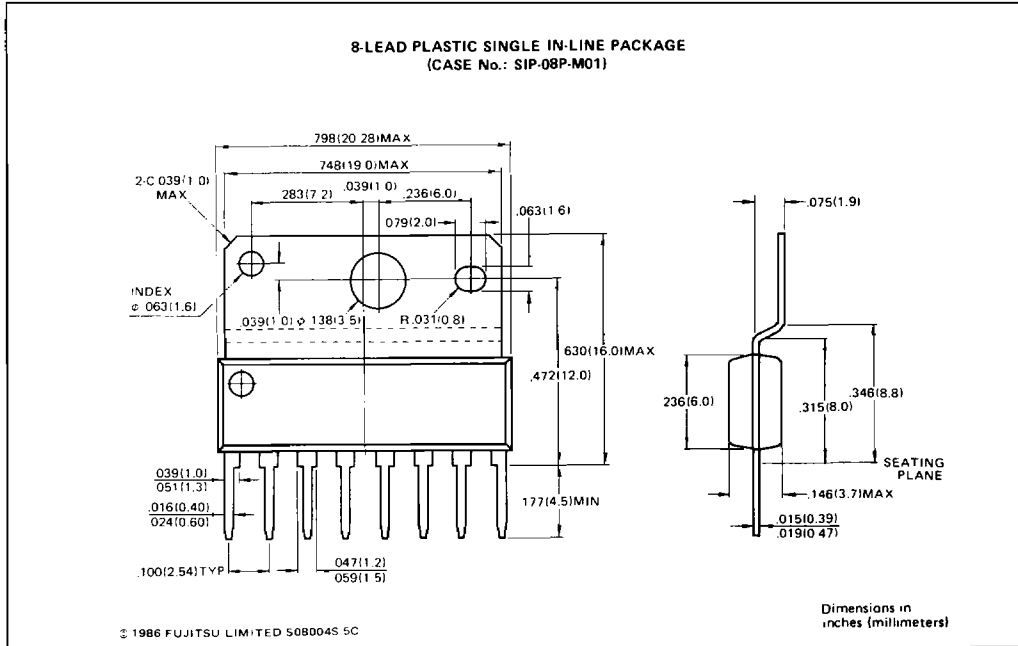
**VOLTAGE GAIN/TOTAL HARMONIC DISTORTION vs. FREQUENCY**



**POWER DISSIPATION/THD/SUPPLY CURRENT vs. VCC**



## PACKAGE DIMENSIONS OF MB 3714A



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## PACKAGE DIMENSIONS OF MB 3715A

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