

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.

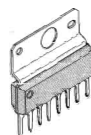
The MB 3714A and MB 3715A can drive even 2 ohm load and are designed against breakdown by load short and supply voltage surge. The packages are protected to mis-mounting with biased hole on the fin.

- High Power: 6.0 W typ/4 Ω , 10.0 W typ/2 Ω
- 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 Ω 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_{CC}	18	V
Supply Voltage (Surge) ($t_s \leq 0.2$ ms, $t_r \geq 1$ ms)	V_{CCS}	40	V
Output Current (Peak)	I_{OP}	4.5	A
Power Dissipation ($T_C \leq 75^\circ\text{C}$)	P_D	7.5	W
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

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.



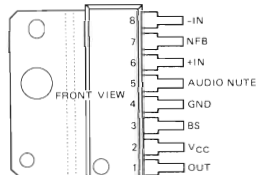
**MB 3714A
PLASTIC PACKAGE
SIP-08P-M01**



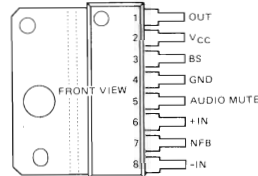
**MB 3715A
PLASTIC PACKAGE
SIP-08P-M04**

PIN ASSIGNMENT

MB 3714A



MB 3715A

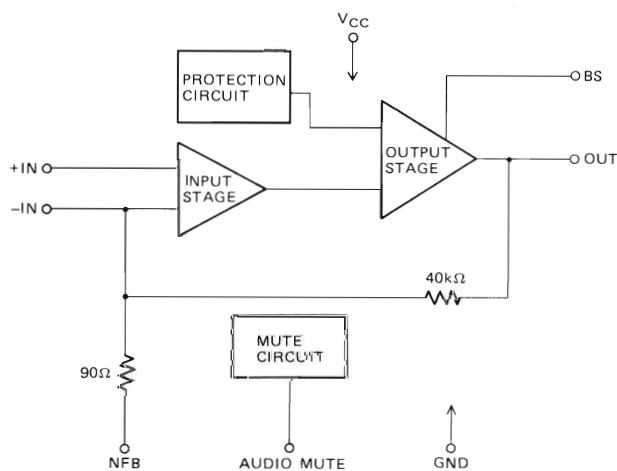


This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields. However, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit.

RECOMMENDED OPERATING CONDITIONS

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

BLOCK DIAGRAM



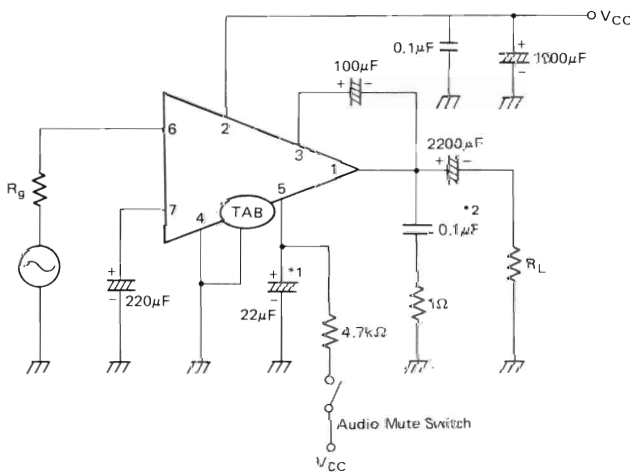
ELECTRICAL CHARACTERISTICS

($T_C = 25^\circ\text{C}$, $V_{CC} = 13.2\text{ V}$, $R_L = 4\ \Omega$ 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

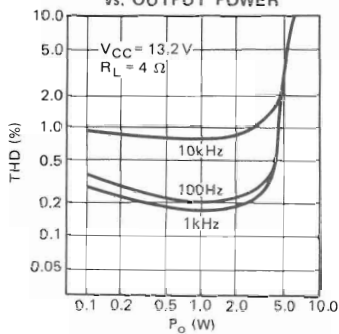
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TYPICAL APPLICATION CIRCUIT

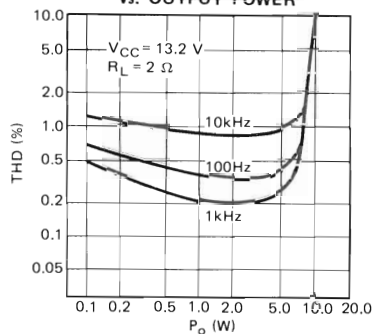


NOTE: *1: For improved ripple reduction, *2: Polyethlen Terephthalate Film Capacitor

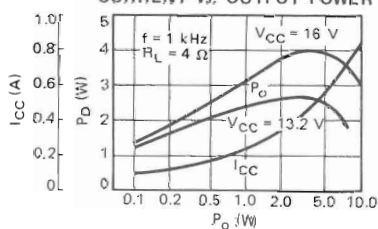
TOTAL HARMONIC DISTORTION vs. OUTPUT POWER



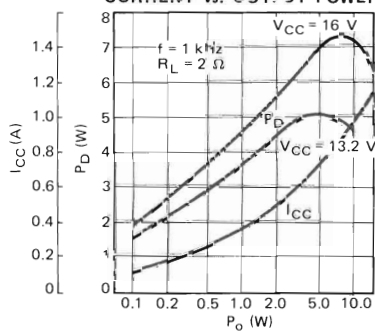
TOTAL HARMONIC DISTORTION vs. OUTPUT POWER



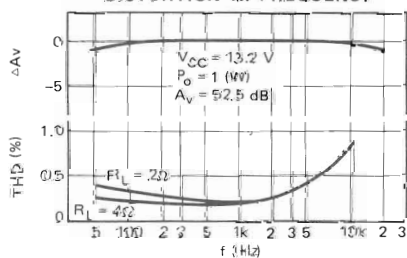
POWER DISSIPATION/SUPPLY CURRENT vs. OUTPUT POWER



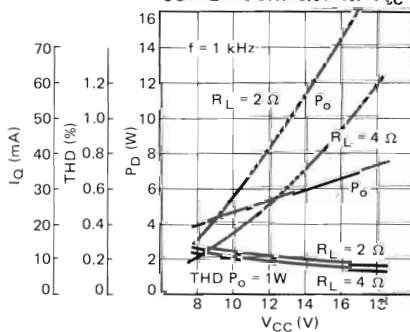
POWER DISSIPATION/SUPPLY CURRENT vs. OUTPUT POWER



VOLTAGE GAIN/TOTAL HARMONIC DISTORTION vs. FREQUENCY

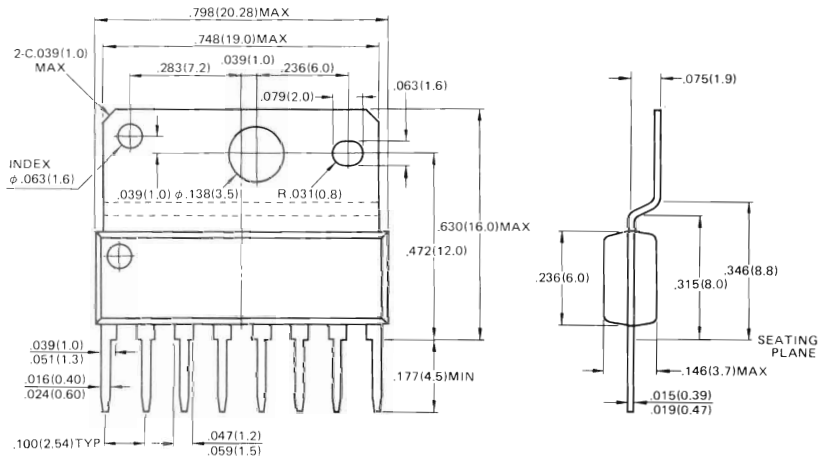


POWER DISSIPATION/THD/SUPPLY CURRENT vs. V_{CC}



PACKAGE DIMENSIONS OF MB 3714A

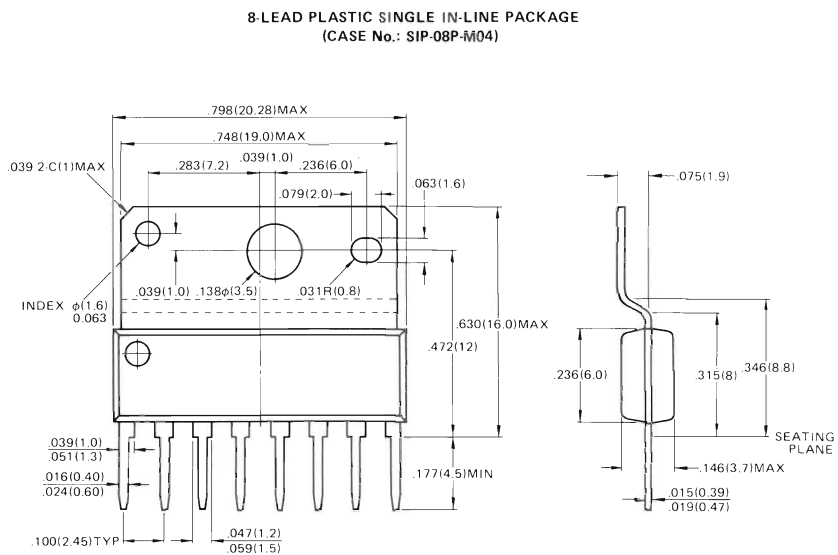
8-LEAD PLASTIC SINGLE IN-LINE PACKAGE
(CASE No.: SIP-08P-M01)



© 1986 FUJITSU LIMITED S080045-5C

Dimensions in
inches (millimeters)

PACKAGE DIMENSIONS OF MB 3715A



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Dimensions in
inches (millimeters)