

M51568FP

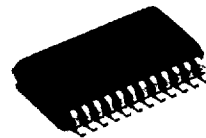
ANALOG OUTPUT AMPLIFIER FOR CD PLAYER

DESCRIPTION

The M51568FP is a semiconductor integrated circuit developed as an analog output amp for digital audio applications such as CD players. It has a built-in headphone amp, its applications include portable apparatuses.

FEATURES

- Low circuit current 6.3mA typ ($V_{CC} = 5V$)
- Low distortion 0.0012% typ ($f = 1kHz$)
- Low noise $N_o = 8\mu V_{rms}$ typ (JIS-A)
- High power Headphone Amp $P_o = 13mW$ typ
($V_{CC} = 5.0V$, $R_o + R_L = 27\Omega + 32\Omega$)



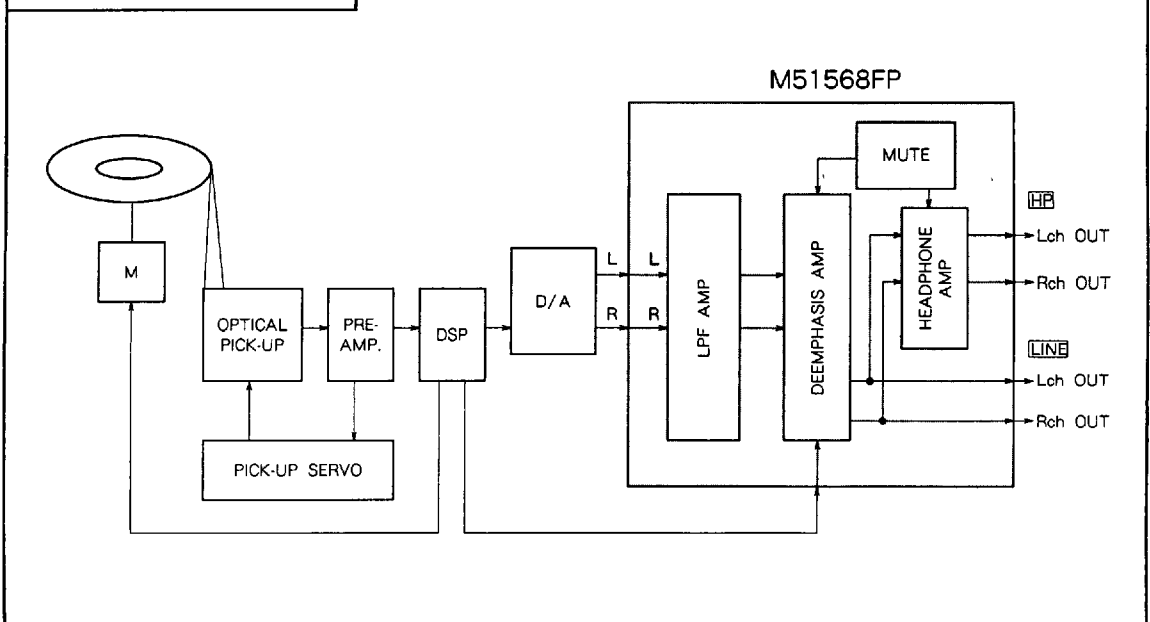
Outline 24P2Q-A

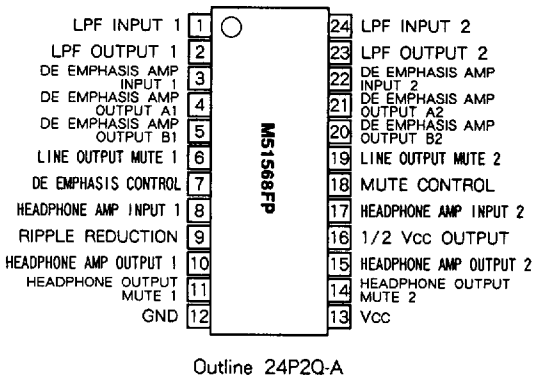
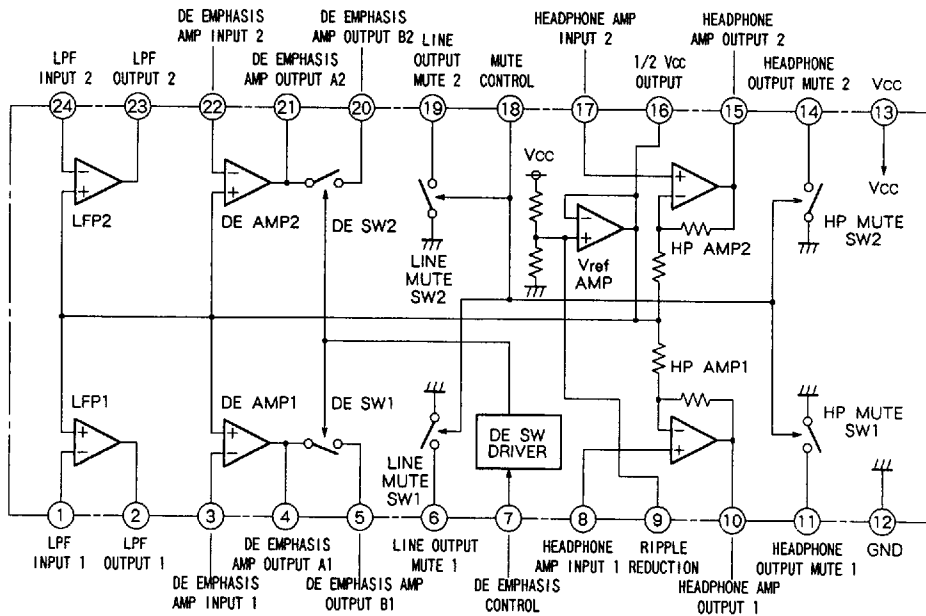
0.8mm pitch 300mil SSOP
(5.3mm × 10.1mm × 1.8mm)

RECOMMENDED OPERATING CONDITIONS

Supply voltage range $V_{CC} = 3 \sim 5.5V$
 Rated supply voltage $V_{CC} = 5V$
 Rated power dissipation 31.5mW

SYSTEM CONFIGURATION



M51568FP**ANALOG OUTPUT AMPLIFIER FOR CD PLAYER****PIN CONFIGURATION****IC INTERNAL BLOCK DIAGRAM**

M51568FP

ANALOG OUTPUT AMPLIFIER FOR CD PLAYER

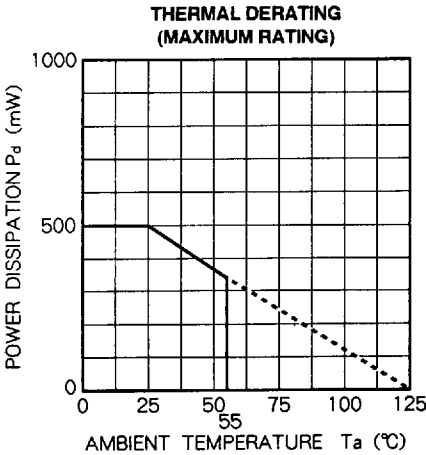
ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$, unless otherwise noted.)

Symbol	Parameter	Ratings	Unit
V_{cc}	Supply voltage	6	V
P_d	Power dissipation	500	mW
K_θ	Thermal derating	5	mW/ $^\circ\text{C}$
T_{opr}	Operating temperature	$-20 \sim +55$	$^\circ\text{C}$
T_{stg}	Storage temperature	$-40 \sim +125$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($V_{cc} = 5\text{V}$, $T_a = 25^\circ\text{C}$, LINE OUT : $R_L = 10\text{k}\Omega$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_{cc}	Circuit Current	Quiescent	—	6.3	16	mA
THD	Total harmonic distortion	$f = 1\text{kHz}$, $V_{in} = 750\text{mVrms}$	—	0.0012	0.006	%
S/N	Signal/Noise Ratio	JIS-A S : $f = 1\text{kHz}$ $V_{in} = 750\text{mVrms}$	85	100	—	dB
CS	Channel Separation	$f = 1\text{kHz}$, $V_{in} = 750\text{mVrms}$ $V_{OHP} = 245\text{mVrms}$	70	85	—	dB
ATT _L	Mute Attenuation	$f = 1\text{kHz}$, $V_{in} = 750\text{mVrms}$, pin ⑩ = 5V, R_o (short circuit protection resistor) = $1.5\text{k}\Omega$	35	45	—	dB
GV _{HP}	Voltage Gain	$f = 2\text{kHz}$, $V_{in} = 47\text{mVrms}$, $R_L = 57\Omega$	17	20	23	dB
V_{OHPmax}	Headphone Amplifier Maximum output voltage	$f = 1\text{kHz}$, THD = 10%, $R_L = 30\Omega$ R_o (short circuit protection resistor) = 27Ω	0.4	0.62	—	Vrms
ATT _{HP}	Mute Attenuation	$f = 1\text{kHz}$, $V_{in} = 47\text{mVrms}$, R_o (short circuit protection resistor) = 27Ω $R_L = 30\Omega$, pin ⑩ = 5V	45	57	—	dB
I_{BM}	Mute control bias current	$V_{in} = 5\text{V}$, pin ⑩	—	13	20	mA
V_{THDE}	De-emphasis control threshold level	pin ⑦	0.9	1.4	1.9	V

TYPICAL CHARACTERISTICS



M51568FP

ANALOG OUTPUT AMPLIFIER FOR CD PLAYER

APPLICATION EXAMPLE

