

M51602FP

3V DUAL AMPLIFIER FOR HEADPHONE
TYPE AUDIO COMPONENTS

DESCRIPTION

The M51602FP is a semiconductor integrated circuit containing a dual amplifier designed for use with compact and micro components (recorders and radios) that have only a headphone output.

Housed in a 16-pin flat package, the device can provide an output of 30mW into a 32Ω load with 3V supply voltage. Muting time can be varied by connecting a capacitor to the muting pin.

And it is suited for micro and miniature components.

FEATURES

- Contains two matched headphone amplifiers
30mW × 2 (typ) (Vcc = 3V, RL = 32Ω, f = 1kHz, THD = 10%)
- Low operating voltage operation starts at 1.6V
- Low distortion 0.15% (typ)
(Vcc = 3V, RL = 32Ω, f = 1kHz, Po = 5mW)
- Built-in muting circuit

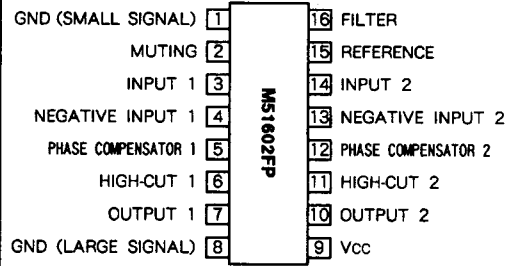
APPLICATION

Stereo type compact and microcassette tape recorder, Radio

RECOMMENDED OPERATING CONDITIONS

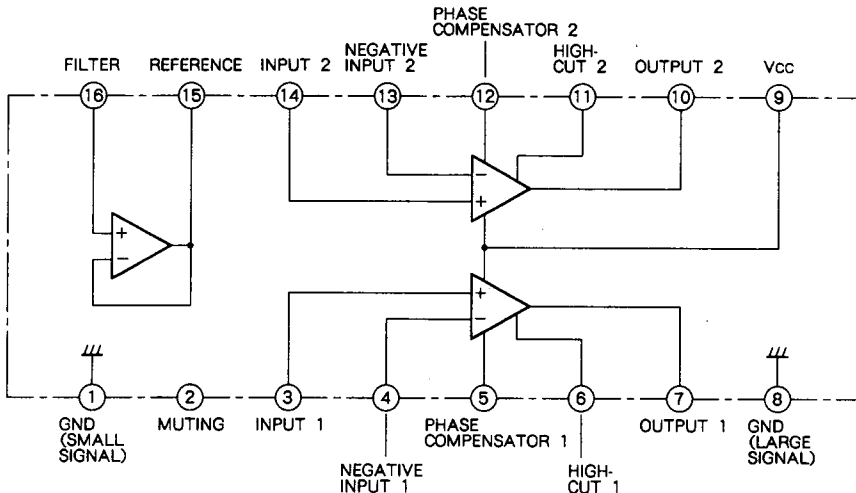
- Supply voltage range 1.8~5V
- Rated supply voltage 3V

PIN CONFIGURATION (TOP VIEW)



Outline 16P2

BLOCK DIAGRAM



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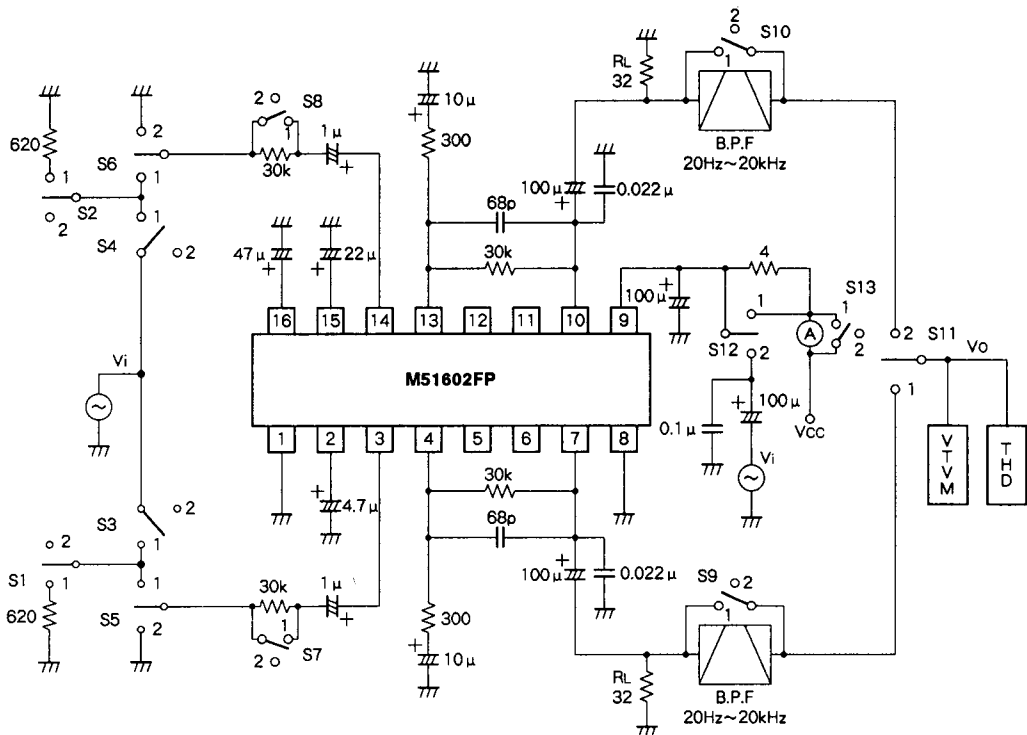
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
Vcc	Supply voltage	Quiescent	7.0	V
Icc	Circuit current		100	mA
Pd	Power dissipation		430	mW
Kθ	Thermal derating	Ta ≥ 25°C	4.3	mW/°C
Topr	Operating temperature		-20~+75	°C
Tstg	Storage temperature		-40~+125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C, Vcc = 3V, RL = 32Ω, f = 1kHz, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
Icco	Quiescent circuit current			7	14	mA
Gv	Voltage gain	Po = 5mW	38	40	42	dB
THD	Total harmonic distortion	Po = 5mW		0.16	1	%
Pomax	Maximum power output	THD = 10%		20	30	mW
No	Output noise voltage	Rg = 0Ω, BW : 20Hz~20kHz		0.15	0.4	mVrms
Ri	Input resistance	Po = 5mW	15	30		kΩ
ΔGv	Voltage gain balance	Po = 5mW		0	±2	dB
C.T.	Cross-talk	Po = 5mW, Rg = 620Ω	40	60		dB
SVRR	Supply voltage rejection ratio	Rg = 0Ω, Vs = -20dBm, f = 100Hz	-44	-30		dB

TEST CIRCUIT

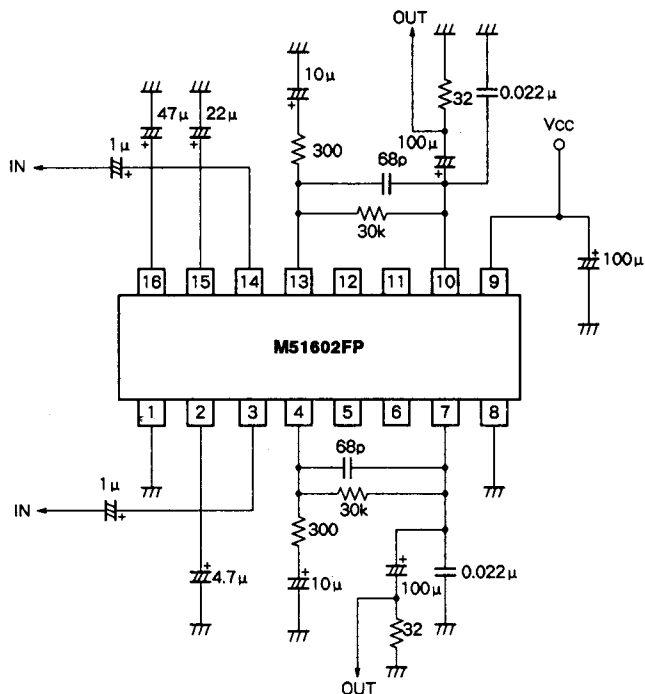


Units Resistance : Ω
Capacitance : F

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APPLICATION EXAMPLE



Units Resistance : Ω
Capacitance : F