LA4575, 4575M

Monolithic Linear IC

2-Channel Pre + Power 3V Headphone Amp

DISCONTINUED PRODUCT

The LA4575,4575M are single-chip pre+power amp ICs designed for playback-only use in 3V headphone stereo applications.

Features

- 2-channel IC containing preamplifiers and power amplifiers in a single chip
- Power amp load : $R_L = 16\Omega \times 2$, $R_L = 32\Omega \times 2$
- Power amp output requires no coupling capacitor.
- Low distortion of power amp (THD = 0.2% typ, $P_o = 1$mW)
- Low output noise voltage of power amp ($V_{NO} = 16\mu$V typ, $R_V = 0$, DIN Audio)
- The output coupling capacitor of the preamp may be removed.

Maximum Ratings at Ta = 25°C

			unit
Maximum Supply Voltage	V_{CC} max	6.0	V
Allowable Power Dissipation	P_d max	500	mW
Operating Temperature	T_{opg}	−20 to +75	°C
Storage Temperature	T_{stg}	−40 to +125	°C

Operating Conditions at Ta = 25°C

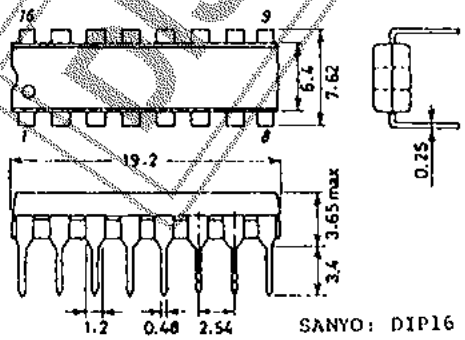
			unit
Recommended Supply Voltage	V_{CC}	3	V
Operating Voltage Range	$V_{CC\,op}$	1.8 to 5.4	V
Load Resistance	R_L	16 to 32	Ω

Operating Characteristics at Ta = 25°C, V_{CC} = 3.0V, f = 1kHz, R_V = 30kΩ, R_L = 32Ω

			min	typ	max	unit
[Pre + Power Amp]						
Quiescent Current	I_{CCO}	R_g = 2.2kΩ(preamp), R_V = 0(power amp)	6	9	18	mA
Crosstalk between Channels	CT1	R_g = 2.2kΩ(preamp), R_V = 0(power amp)	29	35		dB
[Preamp]						
Voltage Gain (Open Loop)	VGo		75	85		dB
Voltage Gain (Closed Loop)	VG1	V_o = −20dBm, R_L = 30kΩ	36.5	38	39.5	dB
Maximum Output Voltage	V_o max	THD = 1%	0.1	0.2		V
Total Harmonic Distortion	THD1	V_o = 0.15V		0.04	0.3	%

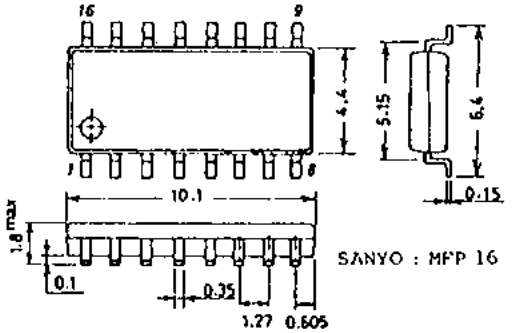
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Case Outline 3006B - D16IC
(unit : mm) [LA4575]



SANYO : DIP16

Case Outline 3035A - M16IC
(unit : mm) [LA4575M]



SANYO : MFP 16

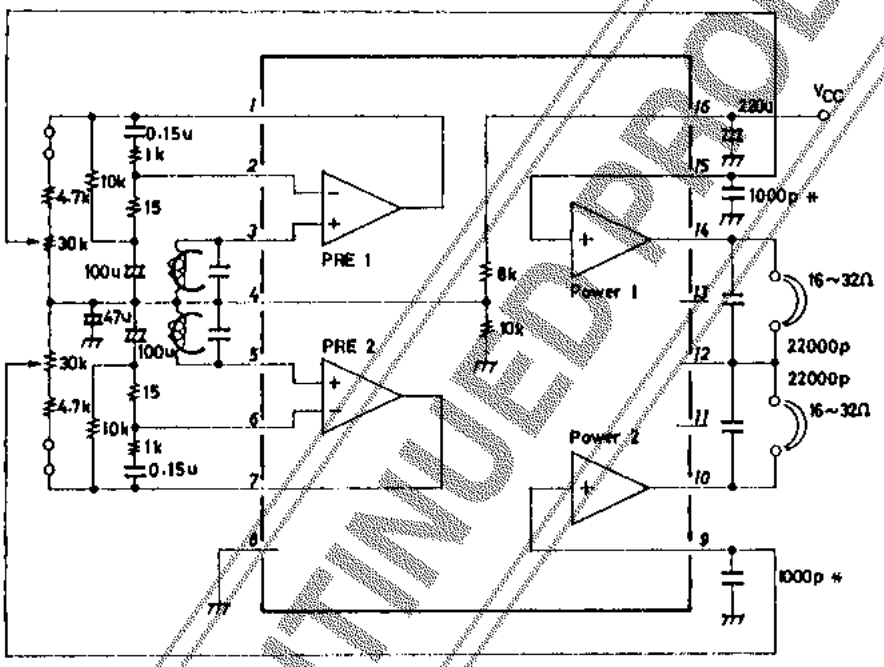
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			min	typ	max	unit
Equivalent Input Noise Voltage	V_{NI}	Rg=2.2kΩ,B.P.F. 20Hz to 20kHz		0.9	2.0	μV
Crosstalk between Channels [Power Amp]	CT2	V_o=−20dBm	45	60		dB
Voltage Gain (Closed Loop)	VG2	V_o=−12.5dBm	27	30	33	dB
Output Power	P_o	THD=10%,R_L=16Ω	22	38		mW
		THD=10%,R_L=32Ω	14	20		mW
Total Harmonic Distortion	THD2	P_o=1mW		0.2	1.0	%
Input Resistance	R_i		20	30	45	kΩ
Output Noise Voltage	V_{NO}	R_V=0(power amp), B.P.F. 20Hz to 20kHz		20	40	μV
Ripple Rejection	R_r	V_{Cr}=−20dBm,f=100Hz,R_V=0	40	60		dB

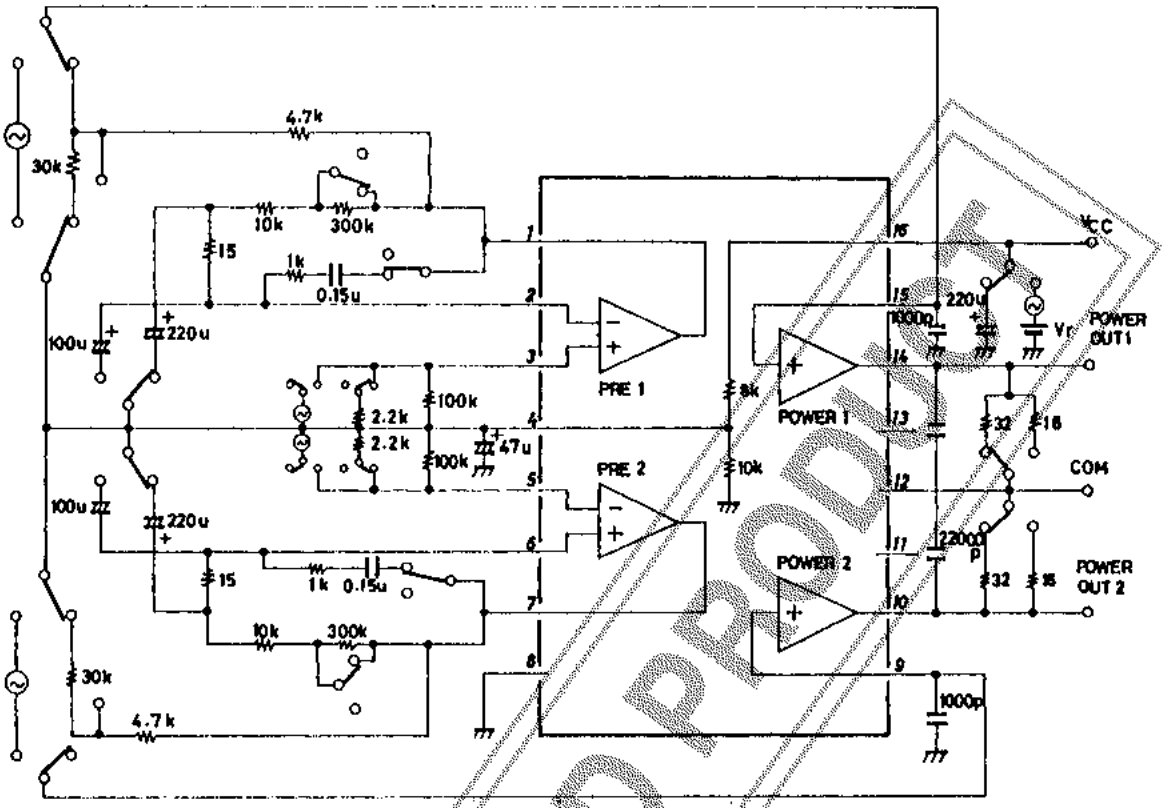
Equivalent Circuit Block Diagram and Sample Application Circuit



Note) 1. A capacitor (1000pF) connected across pin 9 and GND and across pin 15 and GND is effective against radiation.
2. C=47μF may be changed to 100μF so that the low-frequency characteristics of the preamplifier are exhibited satisfactorily.
3. Pins 11 and 12, to which a voltage is applied, must not be connected to other lines.
* May be connected for prevention against radiation (depending on the conditions under which the set is used).

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Test Circuit



The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced.
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Datasheets for electronics components.