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Monolithic Linear IC

SANYO No.2247A

LA4535M

POWER AMP FOR 1.5V HEADPHONE STEREO

Features

- Low current dissipation
- 16ohm load drive capability
- Excellent reduced voltage characteritics
- Excellent power supply ripple rejection
- Minimum number of external parts required (no input capacitor, feedback capacitor required)
- Less harmonic interference in radio band
- On-chip power switch function, muting function

Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	V_{CC}max	Quiescent	4.5	V
Allowable Power Dissipation	Pdmax		300	mW
Operating Temperature	Topr		-20 to +75	°C
Storage Temperature	Tstg		-40 to +125	°C

Operating Conditions at Ta=25°C

			unit
Recommended Supply Voltage	V_{CC}	1.5	V
Operating Voltage Range	V_{CC}op	0.9 to4.0	V
Recommended Load Resistance	R_L	16 to 32	ohm

Operating Characteristics at Ta=25°C, R_L=16ohms, Rg=600ohms, See Test Circuit.

			min	typ	max	unit
Quiescent Current *1	Icco(1)	V_{CC}=1.2V, quiescent		3.5	6.0	mA
	Icco(2)	V_{CC}=2.5V, pin10→GND		1.5	2.5	mA
	Icco(3)	V_{CC}=2.5V, pin1→GND			1.0	uA
Voltage Gain	VG(1)	V_{CC}=1.2V, f=1kHz, Vo=-20dBm	20.5	22	23	dB
	VG(2)	V_{CC}=0.9V, f=1kHz, Vo=-20dBm	19.5	22	23	dB
Voltage Gain Difference	ΔVG(1)	V_{CC}=1.2V, f=1kHz, Vo=-20dBm			1.0	dB
	ΔVG(2)	V_{CC}=0.9V, f=1kHz, Vo=-20dBm			1.0	dB
Total Harmonic Distortion	THD	V_{CC}=1.2V, f=1kHz, Po=0.5mW		0.8	1.5	%
Output Power	Po	V_{CC}=1.5V, f=1kHz, THD=10%	5	8		mW
Crosstalk	CT	V_{CC}=1.2V, f=100Hz, Rg=1kohm, Vo=-20dBm	40	45		dB
Ripple Rejection	SVRR	V_{CC}=1.0V, f=100Hz, Rg=1kohm, V_R=-30dBm, BPF=100Hz	45	50		dB

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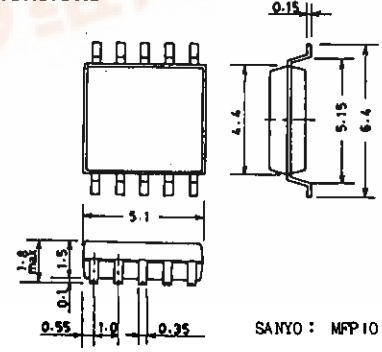
Package Dimensions
(unit: mm)
3086



SANYO : MFP10

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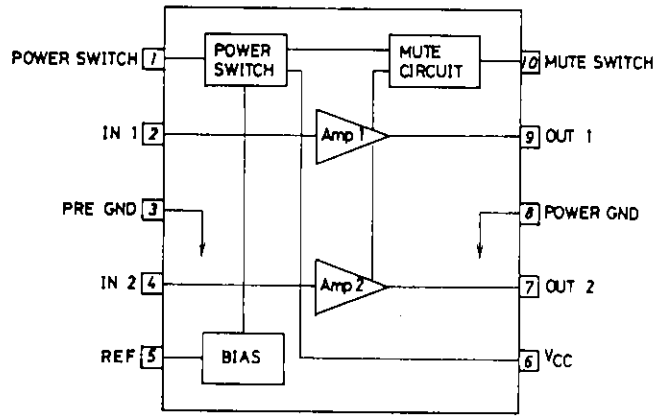
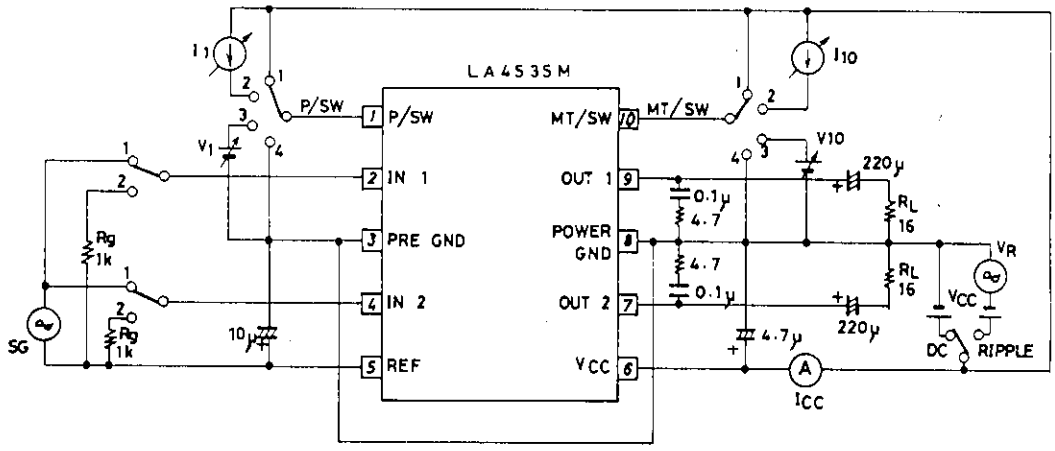
			min	typ	max	unit
Output Noise Voltage	V_{NO}	V_{CC}=2.5V,Rg=1kohm, BPF=20Hzto20kHz		30	44	μV
Power OFF Effect	Vo(off)	V_{CC}=0.9V,f=100Hz, Pin1→GND,Vi=-10dBm			-80	dBm
Muting Effect	Vo(MT)	V_{CC}=0.9V,f=100Hz, Pin10→GND,Vi=-10dBm			-80	dBm
Power ON Current Sensitivity	$I_{1(on)}$	V_{CC}=0.85V,$V_5 \geqq$0.5V		0.1	1.0	μA
Power OFF Voltage Sensitivity	$V_{1(off)}$	V_{CC}=0.85V,$V_5 \leqq$0.1V	0.5	0.65		V
Muting OFF Current Sensitivity	$I_{10(off)}$	V_{CC}=0.85V,$V_5 \geqq$0.5V		0.3	1.0	μA
Muting ON Voltage Sensitivity	$V_{10(on)}$	V_{CC}=0.85V,$V_5 \leqq$0.1V	0.5	0.65		V

Note) *1 The quiescent current is represented by the current flowing into pin 6. The respective maximum currents flowing into pin 1 and pin 10 are calculated by (V pin - 0.5)/16 (V/kohm) and the total current increases by these current values.

Equivalent Circuit Block Diagram

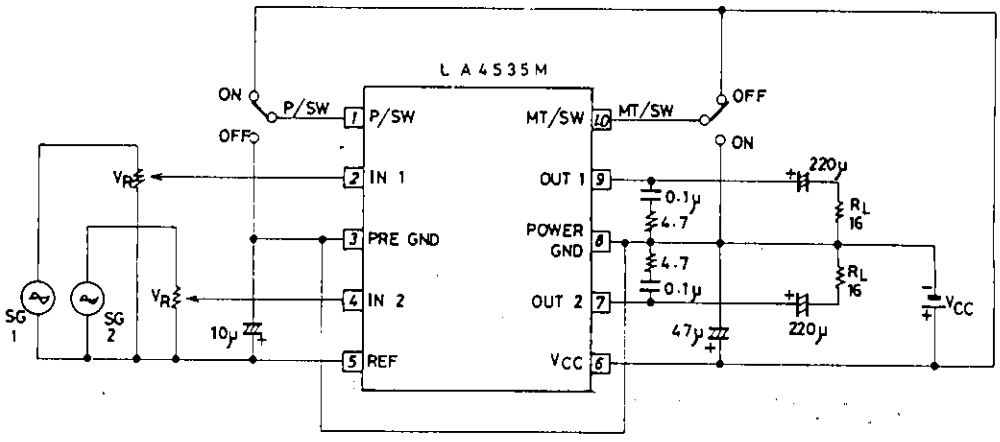


Test Circuit



Sample Application Circuit

Unit (resistance: Ω, capacitance: F)



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