Monolithic Linear IC

SANYO No.1612B

LA6805M

Low-Voltage Power Amp for Speech Synthesis Output

Use

. The LA6805M is a speaker driver IC designed to operate from low voltage. It is especially suited for use in peripherals of musical instruments, electronic translators, speech synthesizing systems.

Features

. On-chip current-voltage converting OP amp (also used as filter amp)
. Capable of delivering high output at low voltage because of low output saturation voltage
. Low quiescent current : 1mA or less (typ.)
. Since the $\overline{ENA}$ pin is provided, no power is dissipated at the unused mode.
. Minimum number of external parts required.

Absolute Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	$V_{CC}max$	$+V_S - (-V_S)$	7	V
Allowable Power Dissipation	Pdmax		330	mW
Operating Temperature	Topr		-10 to +75	°C
Storage Temperature	Tstg		-40 to +125	°C

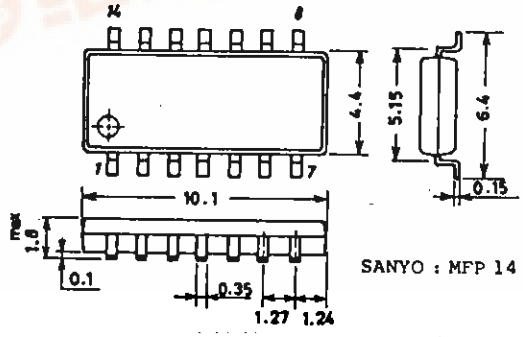
Operating Conditions at Ta=25°C

				unit
Supply Voltage Range	V_{CC} op	$\|V_S\| \cong \|-V_S\|$	±1.2 to ±3.3	V
Recommended Load Resistance	R_L		32 to 64	ohm

Operating Characteristics at Ta=25°C, $+V_S$=1.5V, $-V_S$=-1.5V, R_L=64ohm

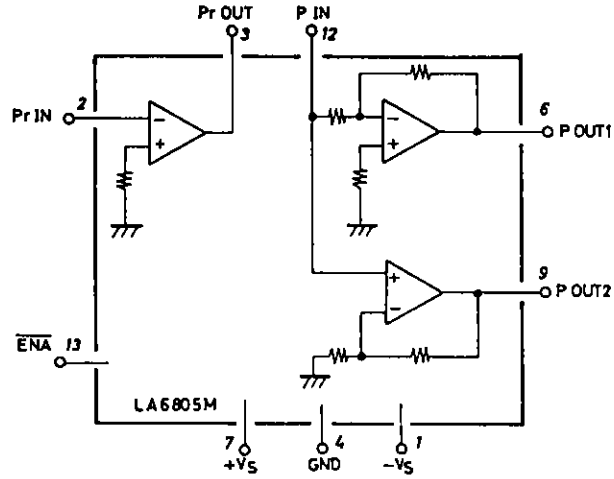
			min	typ	max	unit
Supply Current 1	Icco			2	3.5	mA
Output Saturation Voltage	Vsat1	I_O=+35mA	V_S-0.5			V
	Vsat2	I_O=-35mA			$-V_S$+0.5	V
Input Amp Bias Current	I_B				0.5	μA
Output Offset Voltage	V_O offset		-150		+150	mV
Output Amp Gain 1	VG1	Inverting	12	14	16	dB
Output Amp Gain 2	VG2	Noninverting	12	14	16	dB
Output Amp Gain Difference	$V_{(G1-G2)}$					
Output Voltage	$V_{O(1-2)}$	$+V_S$=1.5V, $-V_S$=-1.5V		±0.5		dB
		THD=10%, f=1kHz	1.5			V
Input Amp Open Loop Gain	VG3	f=1kHz		60		dB

Package Dimensions 3034A-M14IC
(unit: mm)



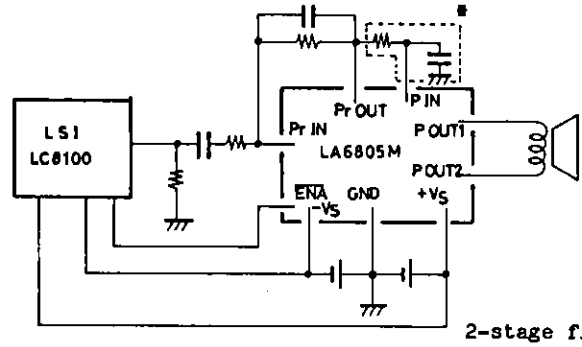
SANYO : MFP 14

Equivalent Circuit Block Diagram



Sample Application Circuits

(1) Application where the LA6805M is used in conjunction with the voltage output type (unipolar) speech synthesis LSI.

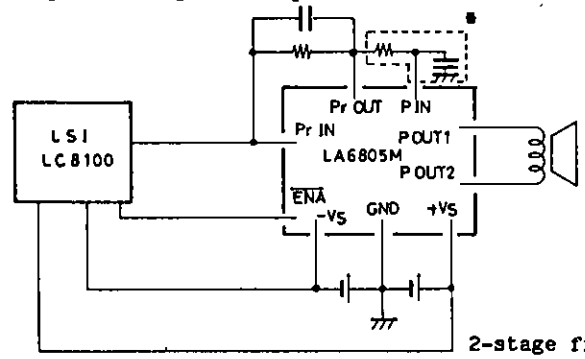


*: When no 2-stage filter is required, short P_{OUT} and P_{IN}.

$\overline{ENA}$: Active-low
($V_S - V_{\overline{ENA}} \geq 2V$)

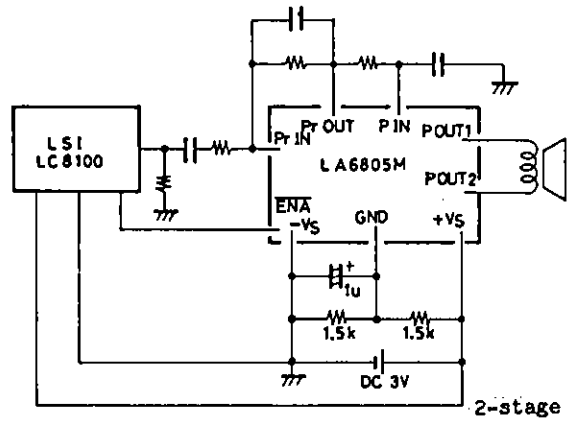
2-stage filter

(2) Application where the LA6805M is used in conjunction with the current output type (bipolar) speech synthesis LSI.



2-stage filter

(3) Application where the LA6805M is operated from a single supply



Unit (resistance: Ω, capacitance: F)

2-stage filter