

Ordering number: EN 1612B

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 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_{CCmax}	$+V_S - (-V_S)$	7 V
Allowable Power Dissipation	P_{dmax}		330 mW
Operating Temperature	T_{opr}		-10 to +75 °C
Storage Temperature	T_{stg}		-40 to +125 °C

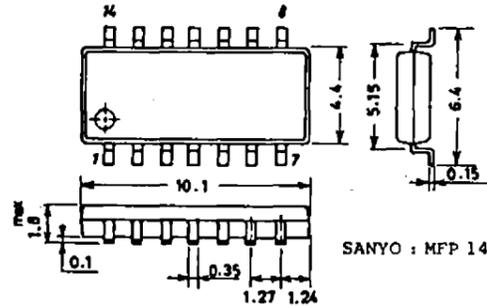
Operating Conditions at Ta=25°C

			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	I_{cco}			2	3.5	mA
Output Saturation Voltage	V_{sat1}	$I_O=+35mA$		$V_S-0.5$		V
	V_{sat2}	$I_O=-35mA$		$-V_S+0.5$		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	$V_{(G1-G2)}$			± 0.5		dB
Output Voltage	$V_O(1-2)$	$+V_S=1.5V, -V_S=-1.5V$				V
		THD=10%, f=1kHz	1.5			
Input Amp Open Loop Gain	VG3	f=1kHz		60		dB

Package Dimensions 3034A-M14IC
(unit: mm)

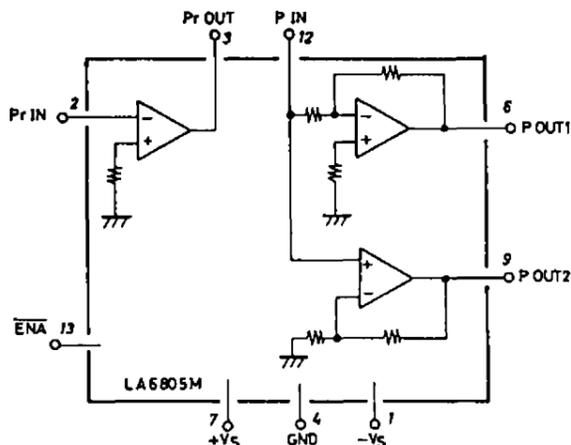


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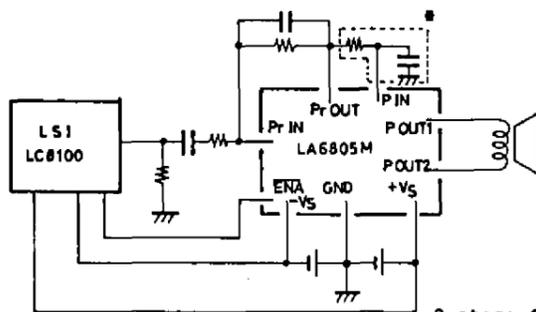
LA6805M

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.

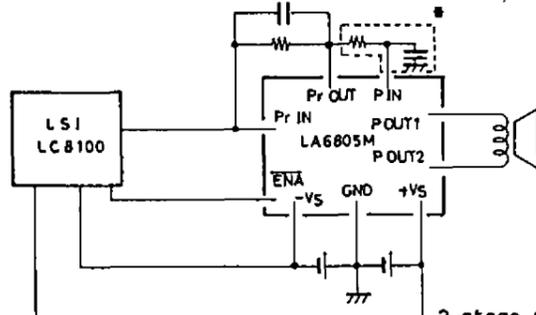


*: When no 2-stage filter is required, short P OUT and P IN.

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

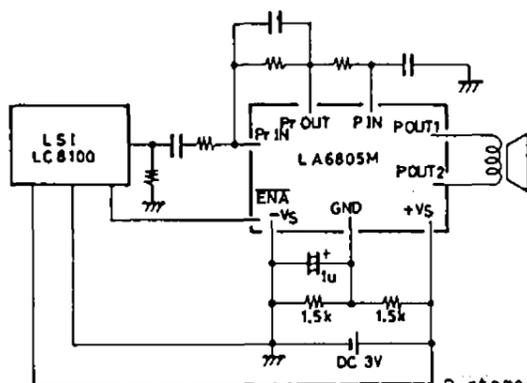
2-stage filter

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



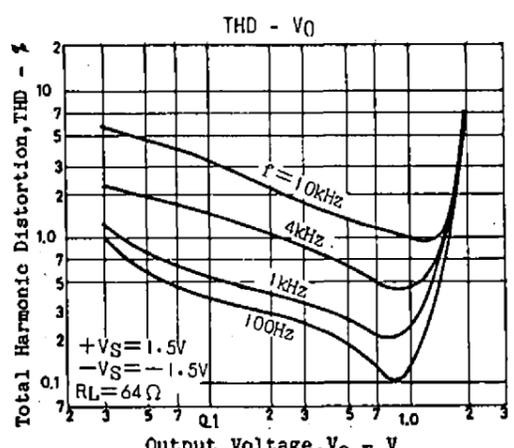
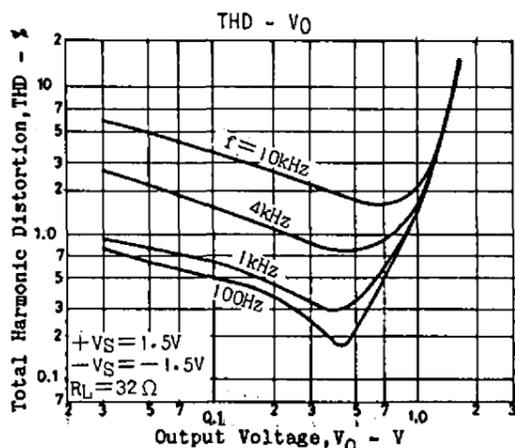
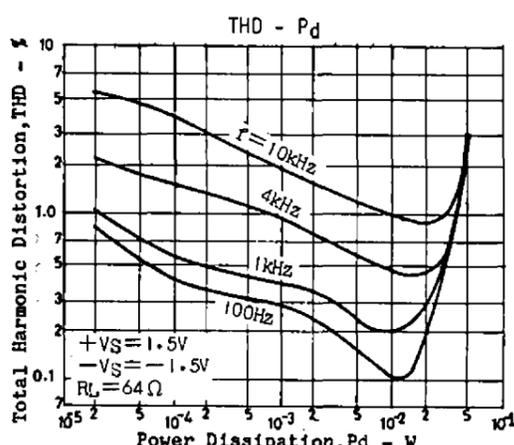
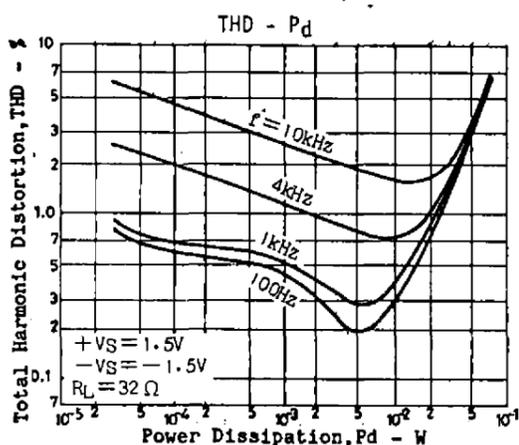
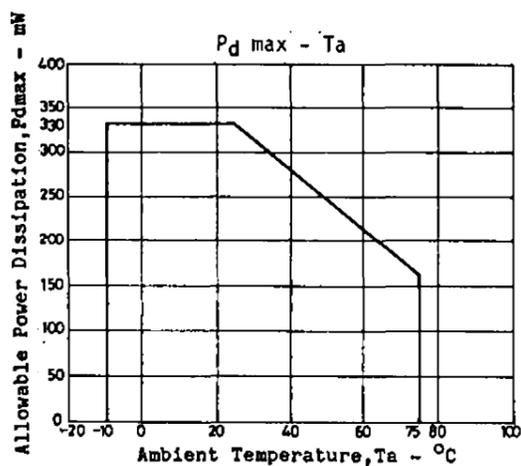
2-stage filter

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



Unit (resistance: Ω , capacitance: F)

2-stage filter



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