

SANYO**LA4705****15 W 2-channel BTL AF Power Amplifier
for Car Stereos****Overview**

The LA4705 is a BTL two-channel power IC for car audio and radio-cassette players developed in pursuit of excellent sound quality. Low-region frequency characteristics have been improved through the use of a new NF capacitorless circuit, and crosstalk which causes “muddy” sound has been reduced by improving both circuit and pattern layout. As a result, the LA4705 provides powerful bass and clear treble. In addition, the LA4705 features on-chip protectors and standby switch.

Features

- High power: supports total output of 25 W + 25 W ($V_{CC} = 14.4$ V, THD = 30%, $R_L = 4 \Omega$)
- Less pop noise
- Designed for excellent sound quality ($f_L < 10$ Hz, $f_H = 130$ kHz)
- Any on time settable by external capacitor
- Standby switch circuit on chip (microprocessor supported)
- Various protectors on chip (output-to-ground short/output-to- V_{CC} short/load short/overvoltage/thermal shutdown circuit)
- NF capacitorless
- Supports $R_L = 2 \Omega$

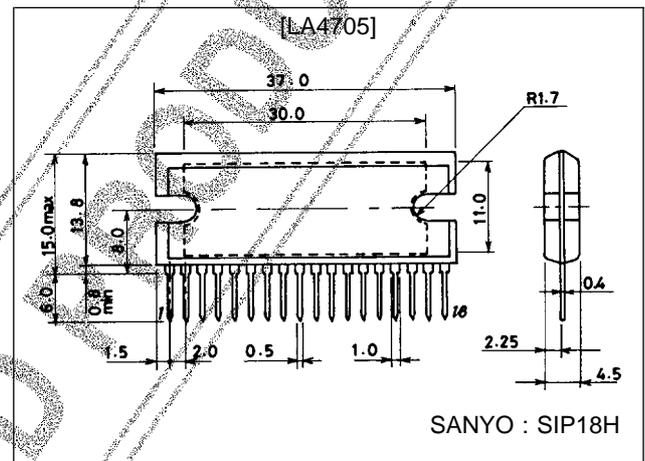
Specifications**Maximum Ratings at $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max }1}$	No signal, $t = 60$ s	24	V
	$V_{CC\text{ max }2}$	With signal	18	V
Surge supply voltage	$V_{CC\text{ surge}}$	$t \leq 0.2$ s, single giant pulse	50	V
Allowable power dissipation	$P_d\text{ max}$	Arbitrarily large heat sink	37.5	W
Operating temperature	T_{opr}		-35 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +150	$^\circ\text{C}$

* Set V_{CC} , R_L in a range that does not exceed $P_d\text{ max} = 37.5$ W

Package Dimensions

unit: mm

3109-SIP18H

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LA4705

Features and Usage Notes

- Pin 5 is the standby switch pin. The amplifier is turned on by applying approximately 2 V or more to this pin through an external resistor (R1). The current flowing into pin 5 is 500 μ A or less.
- Pin 6 is the mute pin. The amplifier on time can be set as desired through C3. By grounding pin 6, the amplifier can implement mute operation. In this case, the recovery time depends on C3.
- In order to prevent damage or degradation which may be caused by abnormally heated IC, the LA4705 has a thermal shutdown protector. Accordingly, in the case of inadequate heat dissipation, the thermal shutdown protector will operate to control the output gradually into attenuation.
- Also be fully careful of handling other protectors built in the LA4705.

Sample Application Circuit

