

LA4700N

2-Channel 12W AF Power Amplifier for Car Stereos

Functions

- · Standby switch function built in
- Pop noise suppressor built in
- · Thermal shutdown circuit built in
- · Overvoltage/surge protector built in
- · Output pin-to-GND short protector built in
- Output pin-to-V_{CC} short protector built in
- · Load short protector built in

Features

- · Low pop noise at the time of power supply ON/OFF
- · Excellent oscillation stability

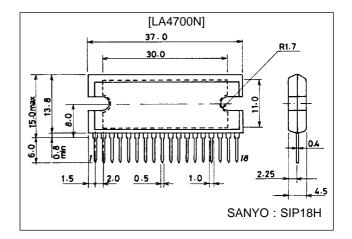
Specifications

Maximum Ratings at $Ta = 25^{\circ}C$

Package Dimensions

unit: mm

3109-SIP18H



Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max1	Quiescent t = 30 s	26	V
	V _{CC} max2	Quiescent	18	V
	V _{CC} max3	Operating	16	V
Surge supply voltage	V _{CC} surge	t = 200 ms rise time 1 ms	50	V
Maximum output current	lo peak	Per channel	4	А
Allowable power dissipation	Pd max	*Note	37.5	W
Operating temperature	Topr		-30 to +75	°C
Storage temperature	Tstg		-40 to +150	°C

Operating Conditions at $Ta = 25^{\circ}C$

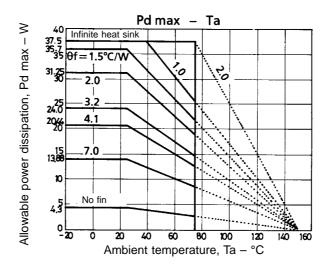
Parameter	Symbol	Conditions	Ratings	Unit
Recommended operating voltage	V_{CC}		13.2	V
Operating voltage range	V _{CC} op		10 to 16	V
Recommended load resistance	R_L	BTL/2ch	4 to 8	Ω

^{*}Note: Use flat head screws for attaching heat sink with tightening torque 39 to 59 N•cm.

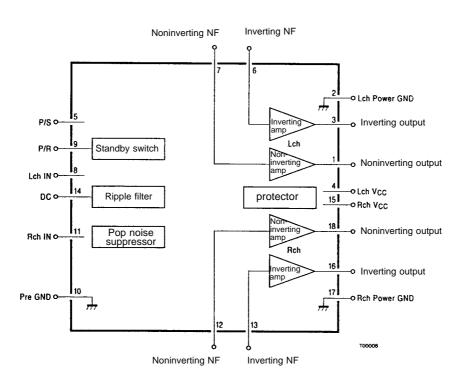
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Operating Characteristics at Ta = 25°C, V_{CC} = 13.2 V, R_L = 4 Ω , f = 1 kHz, Rg = 600 Ω , See specified Test Circuit

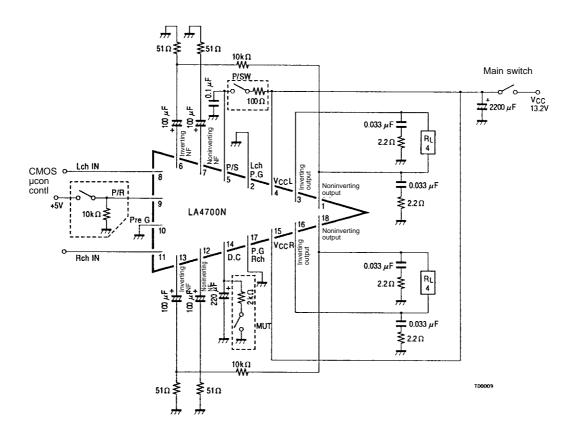
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	Icco		60	140	200	mA
Voltage gain	VG		48	50	52	dB
Voltage gain difference	ΔVG				2	dB
Total harmonic distortion	THD	Po = 1 W		0.15	0.75	%
Output voltage	Po	THD = 10%	10	12		W
Output noise voltage	V _{NO}	Rg = 0, B.P.F. = 20 Hz to 20 kHz		0.2	0.4	mV
Ripple rejection	SVRR	$Vr = 0 \text{ dBm}, f_R = 100 \text{ Hz}, Rg = 0$	40	55		dB
Channel separation	CHsep	Po = 1 W, Rg = 10 k Ω	50	60		dB
Standby current	1st			10	100	μΑ
Offset voltage	Voff		-300		300	mV



Equivalent Circuit Block Diagram

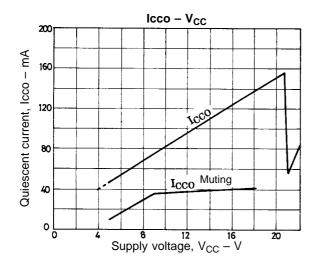


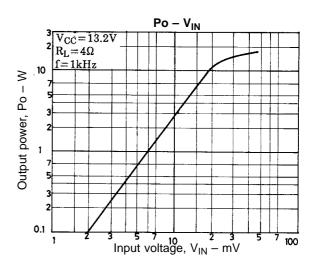
Sample Application Circuit

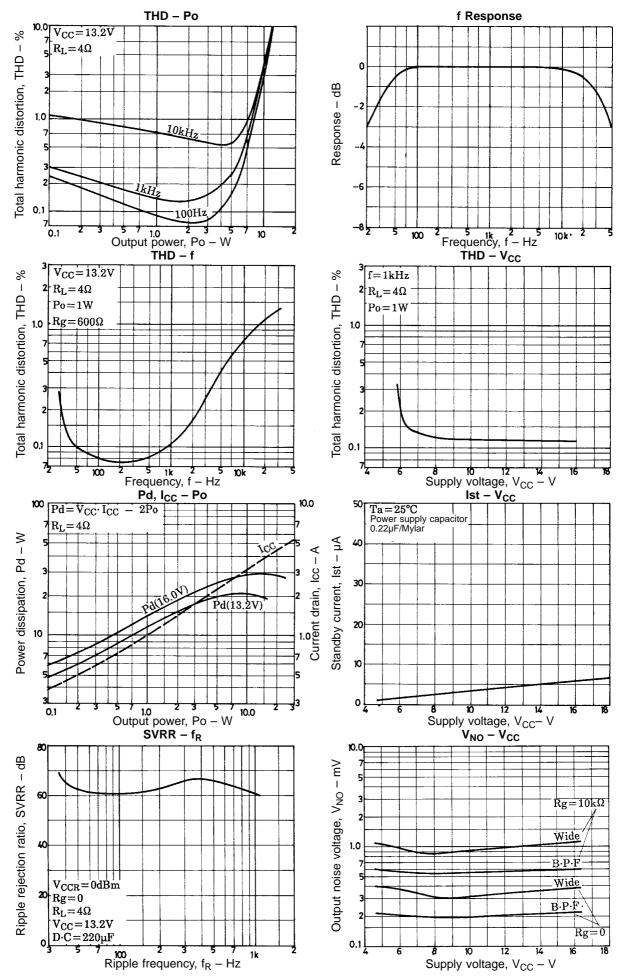


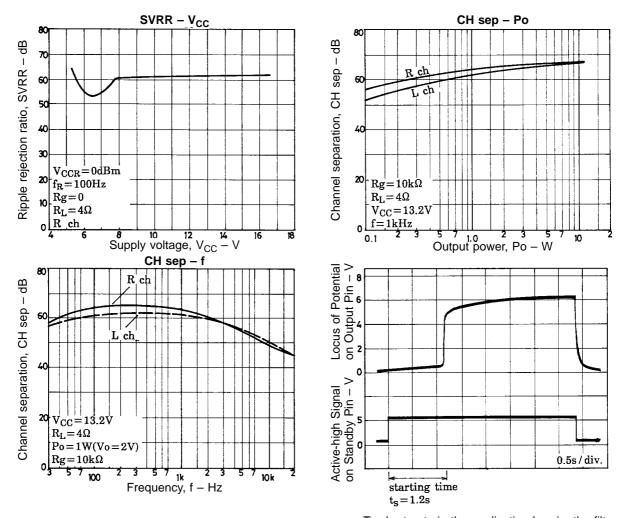
* Connect the portion bounded by a dotted line according to your intended applications.

When the power relay is not used, connect pin (9) to GND. In this case, the power switch is used to turn ON/OFF the LA4700N or the main switch is used to turn ON/OFF the LA4700N.









To shorten t_S in the application herein, the filter capacitor (pin 14) value 220 μF is decreased. Filter capacitor value 100 μF gives t_S of 0.6 to 0.7 second.

LA4700N

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