

SANYO**LA4725****2-Channel BTL Power Amplifier(30W+30W)
with Standby Switch for Car Stereos****Preliminary****Overview**

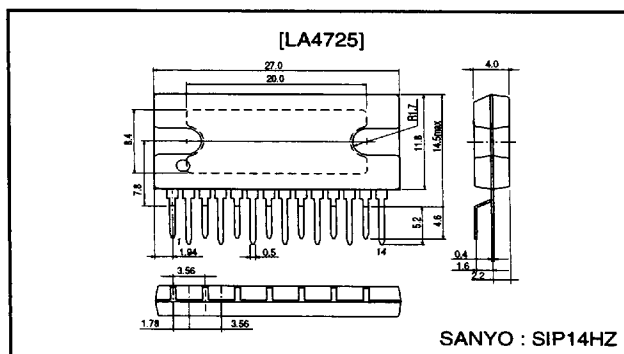
The LA4725 is a BTL two-channel power IC for car audios developed in pursuit of excellent sound quality. Low-region frequency characteristics have been improved through the use of a new NF capacitorless circuit, and crosstalk which causes "muddy" sound has been reduced by improving both circuit and pattern layout. As a result the LA4725 provides powerful bass and clear treble.

Features

- High power. supports total output of 30W+30W. [EIAJ power] ($V_{CC}=14.4V$, $THD=30\%$, $R_L=4\Omega$)
- Less pop noise.
- Designed for excellent sound quality. ($f_L<10Hz$, $f_H=130kHz$)
- Any rise time settable by an external capacitor.
- Standby switch circuit on chip. (microcontroller supported)
- Various protectors on chip. (output-to-ground short / output-to- V_{CC} short / load short / overvoltage / thermal shutdown circuit)
- The LA4725 is pin-compatible with the LA4728.

Package Dimensions

unit: mm

3113A-SIP14HZ**Specifications****Maximum Ratings** at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		18	V
Surge supply voltage	$V_{CC\ surge}$	$f \leq 0.2s$, single giant pulse	50	V
Maximum output current	$I_O\ peak$	Per channel	3.0	A
Allowable power dissipation	$P_d\ max$	With arbitrarily large heat sink	32	W
Operating temperature	T_{opr}		-35 to +85	$^\circ C$
Storage temperature	T_{stg}		-40 to +150	$^\circ C$

Recommended Conditions at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		13.2	V
Operating voltage range	$V_{CC\ op}$	Range where $P_d\ max$ is not exceeded	9 to 16	V
Recommended load resistance	$R_L\ op$		4	Ω

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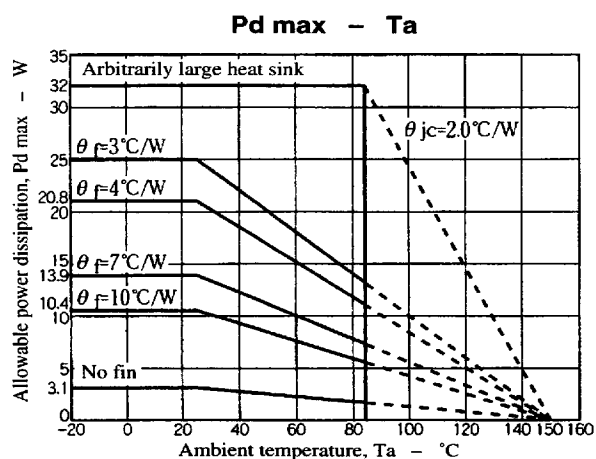
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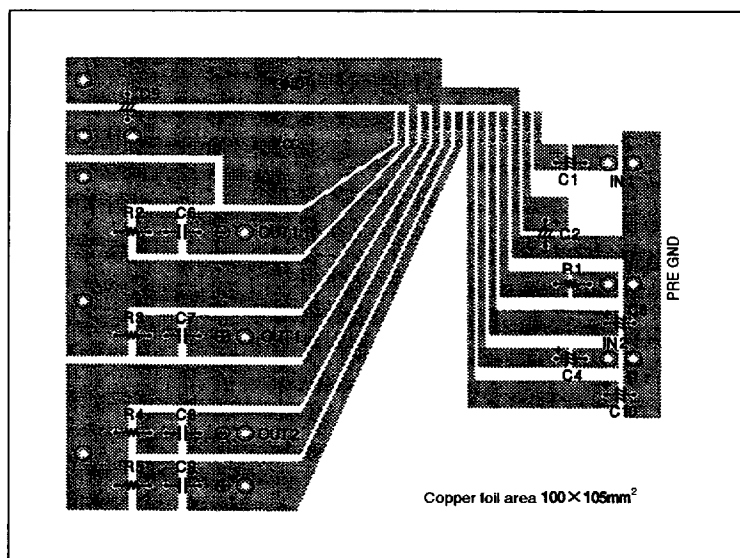
LA4725

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{CC}=13.2\text{V}$, $R_L=4\text{k}\Omega$, $f=1\text{kHz}$, $R_g=600\Omega$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	$R_g=0$	70	125	250	mA
Standby current	I_{ST}			10	60	μA
Voltage gain	VG		38	40	42	dB
Total harmonic distortion	THD	$P_O=1\text{W}$		0.06	0.2	%
Output power	P_{O1}	$R_L=4\Omega$, THD=10%, $V_{CC}=13.2\text{V}$	13	17		W
	P_{O2}	$R_L=4\Omega$, THD=10%, $V_{CC}=14.4\text{V}$		20		W
	P_{O3}	$R_L=4\Omega$, THD=30%, $V_{CC}=14.4\text{V}$		30		W
Output offset voltage	V_N offset	$R_g=0$	-300		+300	mV
Output noise voltage	V_{NO}	$R_g=0$, B.P.F.=20Hz to 20kHz		0.1	0.5	mVrms
Ripple rejection ratio	SVRR	$R_g=0$, $f_R=100\text{Hz}$, $V_R=0\text{dBm}$	40	50		dB
Channel separation	Chsep	$R_g=10\text{k}\Omega$, $V_O=0\text{dBm}$	50	60		dB
Input resistance	R_i		21	30	39	$\text{k}\Omega$
Standby pin applied voltage	V_{st}	Amp on, applied through $10\text{k}\Omega$	2.5		V_{CC}	V



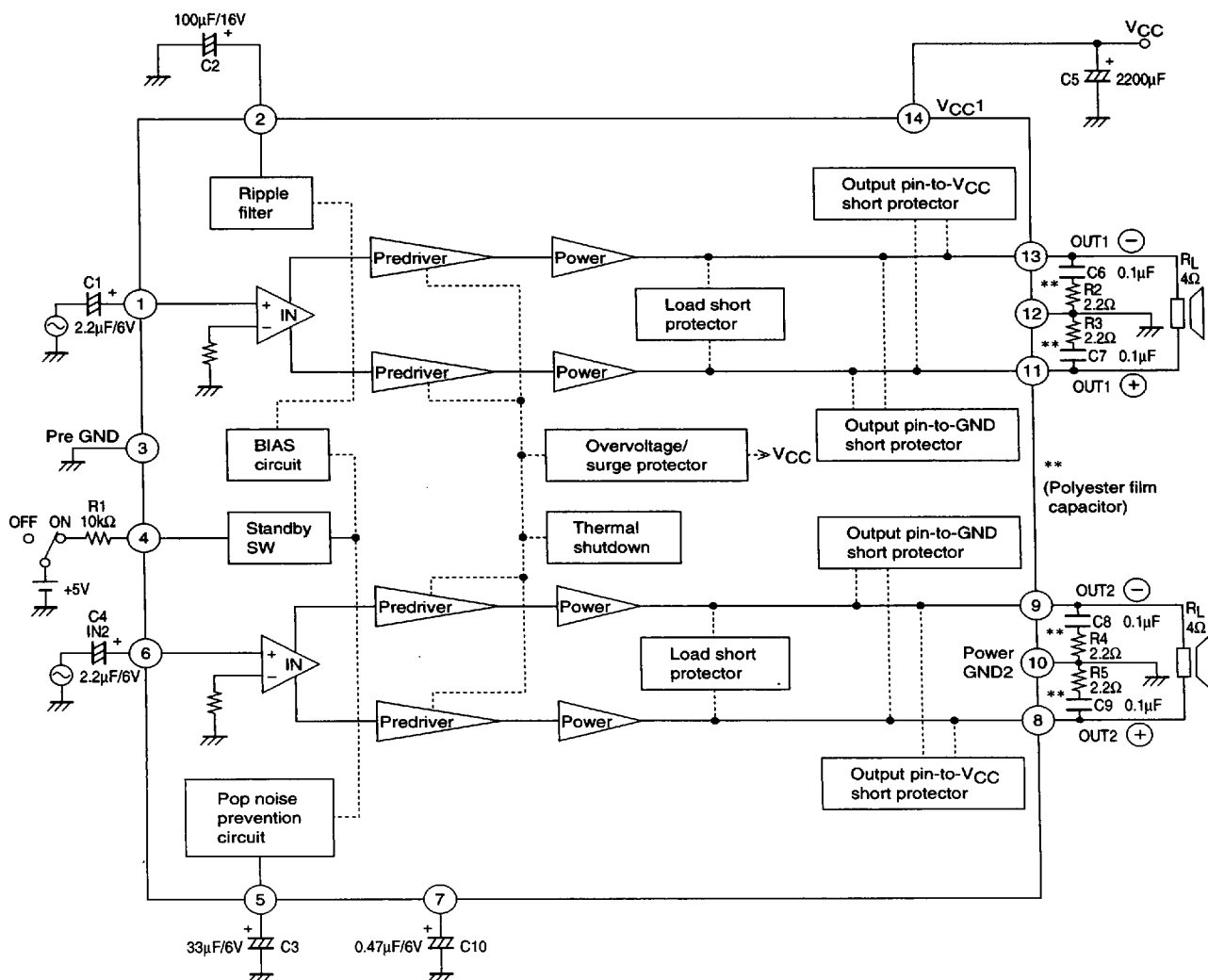
Sample Print Pattern



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Block Diagram and Sample Application Circuit



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