

Ordering number:ENN2681B

Monolithic Linear IC

**LA4597**

2-Channel Power Amplifier for Radio-Cassette Recorders

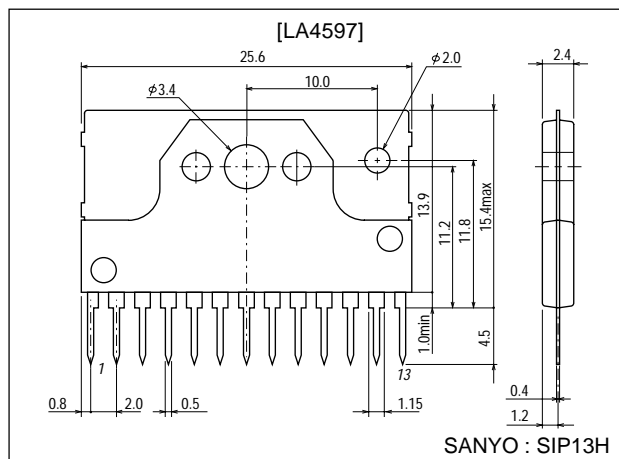
Functions

- On-chip thermal shutdown circuit.
- On-chip standby switch.

Package Dimensions

unit:mm

3107-SIP13H



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$		18	V
Allowable power dissipation	$P_{d\text{ max}}$	With $100 \times 100 \times 1.5\text{mm}^3$ Al heat sink	11.4	W
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		9, 12	V
Recommended load resistance	R_L		3.2	Ω
Operating voltage range	$V_{CC\text{ op}}$		4.2 to 16.0	V

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC}=9\text{V}$, $f=1\text{kHz}$, $R_g=600\Omega$, $R_L=3.2\Omega$, $V_G=50\text{dB}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{cco}		10	20	40	mA
Voltage gain	V_G		47	49	51	dB
Output power	P_{O1}	THD=10%	2.2	2.9		W
	P_{O2}	THD=10%, $V_{CC}=12\text{V}$		4.6		W
Total harmonic distortion	THD	$V_O=2\text{V}$		0.3	1.0	%
Input resistance	r_i		20	30		$k\Omega$

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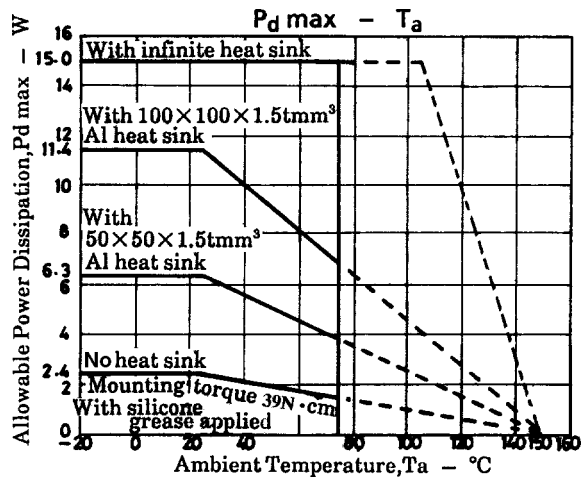
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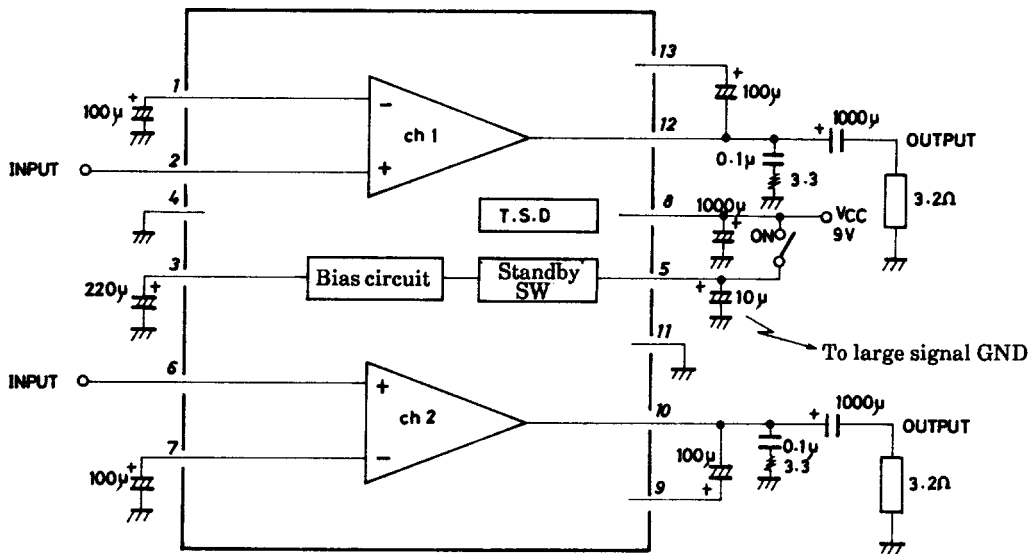
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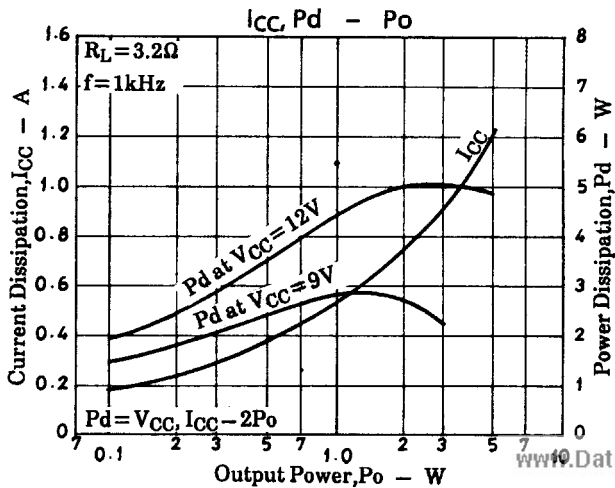
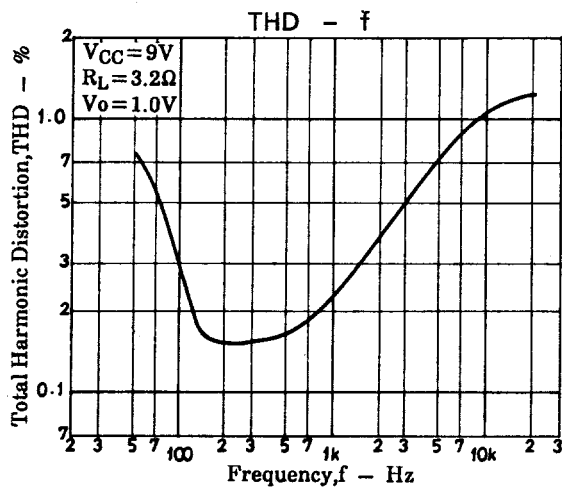
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output noise voltage	V_{NO1}	$R_g=0$, BPF=20Hz to 20kHz		0.4	1.0	mV
	V_{NO2}	$R_g=10k\Omega$, BPF.=20Hz to 20kHz		0.6	2.0	mV
Ripple rejection	R_r	$R_g=0$, $f_r=100Hz$, $V_{CCr}=150mV$	40	50		dB
Channel separation	CH Sep	$R_g=10k\Omega$, $V_o=0dBm$	45	55		dB
Standby current	I_{sd}				10	μA



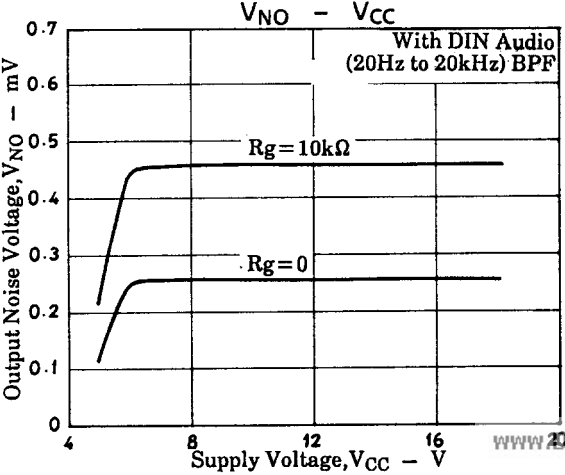
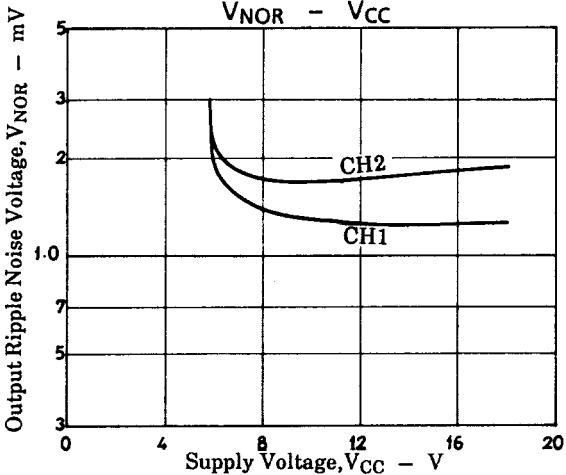
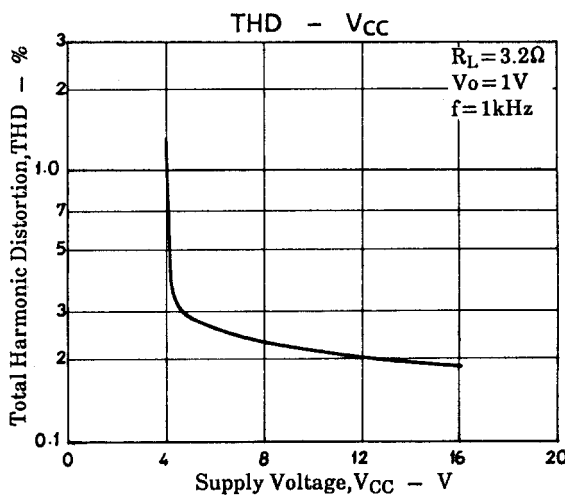
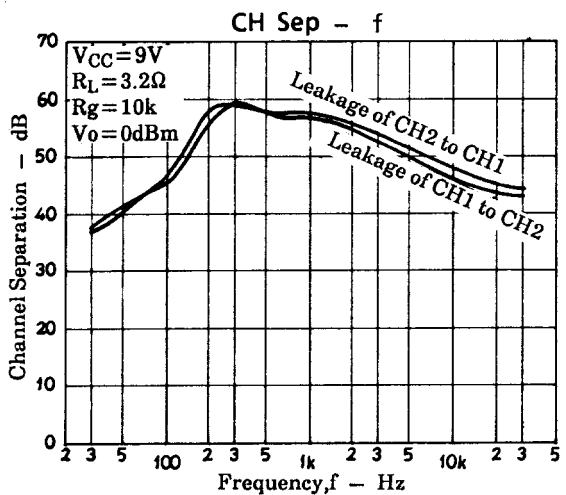
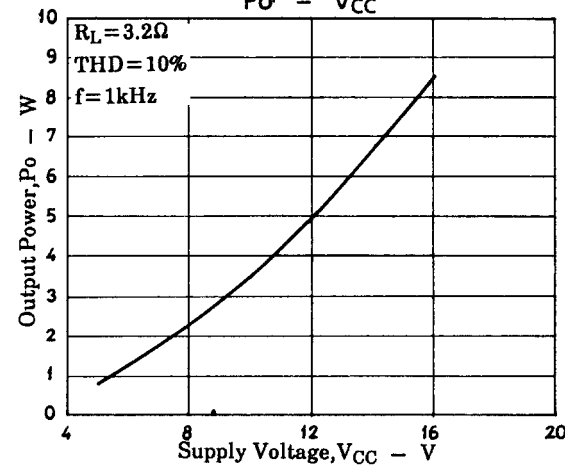
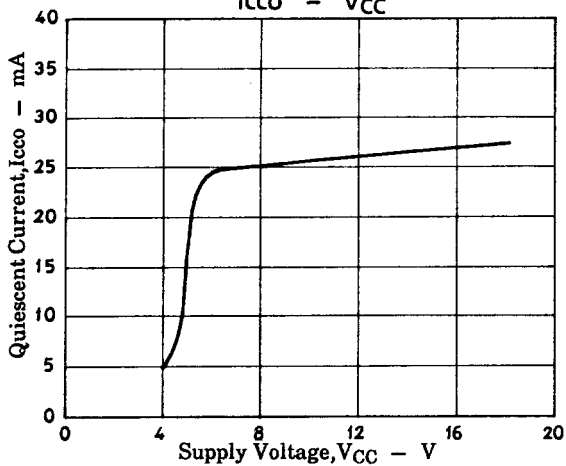
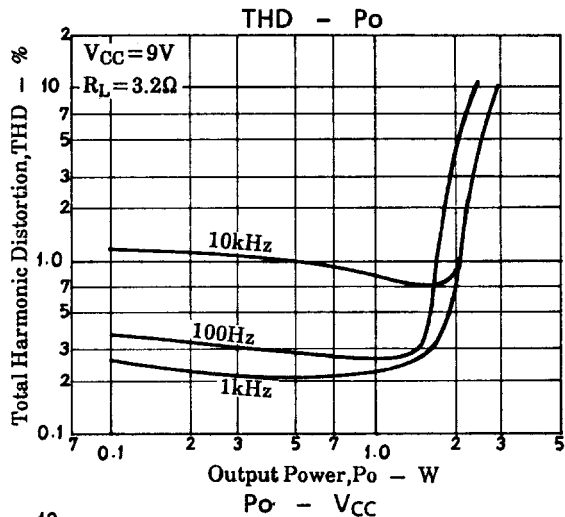
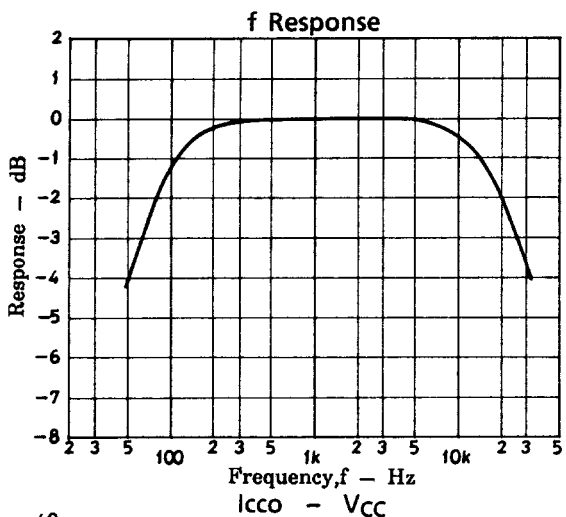
Test Circuit and External Constants



Unit (resistance: Ω , capacitance: F)



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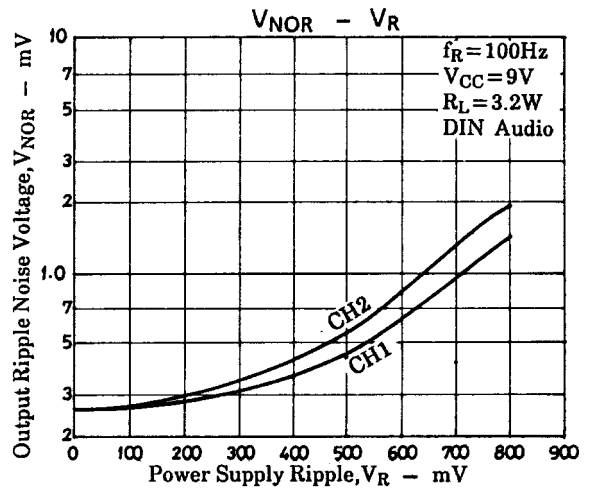
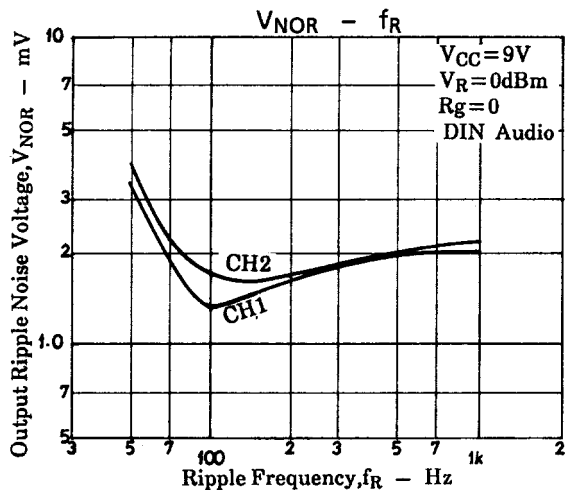
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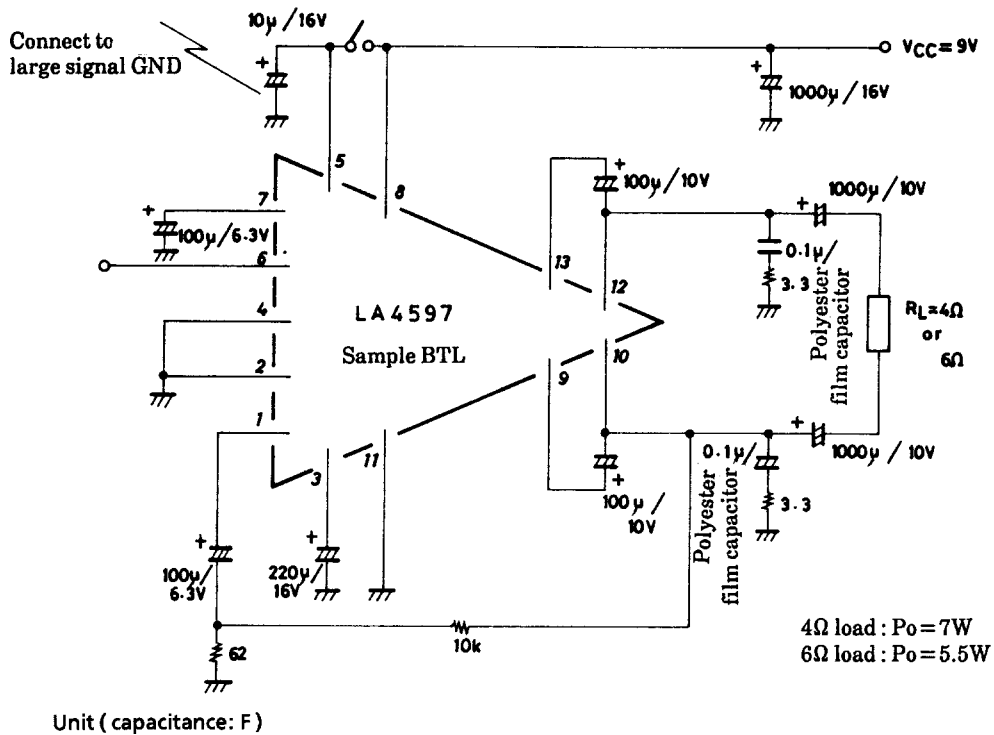
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Sample BTL



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