Ordering number: EN2064C

Monolithic Linear IC

LA6462M, 6462S

High-Performance Dual Operational Amplifiers

Overview

The LA6462 consists of two independent, internally phase compensated operational amplifiers. They feature low noise, high speed, wide band. Application areas include audio preamplifiers, active filters, and various electronic circuits.

Features

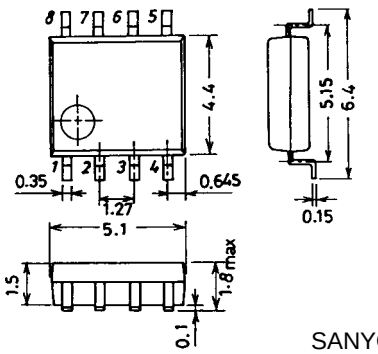
- Built-in phase compensation circuit
  (Gain ≧ 10 dB recommended)
- Low noise: Equivalent input noise voltage
  0.70 μV typ (Rg = 2.2 kΩ RIAA, DIN Audio).
  0.50 μV typ (Rg = 300 Ω, IHF-A)
- High speed: Slew rate 4.0 V/μs typ.
- Wide band: Gain-bandwidth product 6 MHz typ.

Package Dimensions

unit : mm

3032-MFP8

[LA6462M]

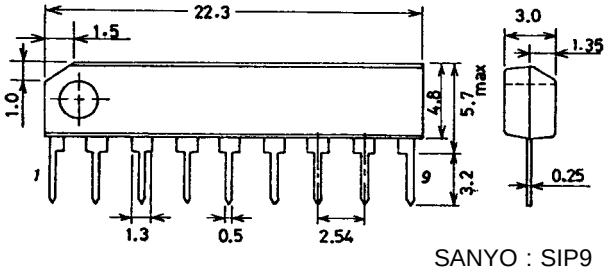


SANYO : MFP8

unit : mm

3017C-SIP9

[LA6462S]



SANYO : SIP9

Specifications

Maximum Ratings at Ta = 25°C

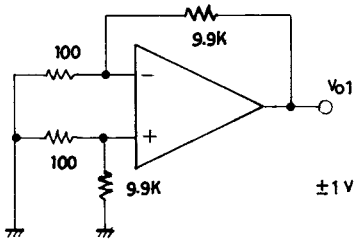
Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		±18	V
Differential input voltage	V_{ID}		±30	V
Common-mode input voltage	V_{IN}		±15	V
Allowable power dissipation	Pd max	LA6462M	300	mW
		LA6462S	500	mW
Operating temperature	Topr		−20 to +75	°C
Storage temperature	Tstg		−40 to +125	°C

Operating Characteristics at Ta = 25°C, V_{CC} = 15 V, V_{EE} = −15 V

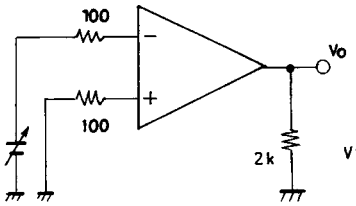
Parameter	Symbol	Conditions	min	typ	max	Unit
Input offset voltage	V_{IO}	R_S = 10 kΩ		0.3	6.0	mV
Input offset current	I_{IO}			5	200	nA
Input bias current	I_B			200	500	nA
Common-mode input voltage	V_{ICM}		±12	±14		V
Common-mode rejection ratio	CMRR		70	90		dB
Voltage gain	VG_O	R_L ≧ 2 kΩ, V_O = ±10 V	96	110		dB
Maximum output voltage	V_O (1)	R_L ≧ 10 kΩ		±14		V
	V_O (2)	R_L ≧ 2 kΩ		±13		V
Slew rate	SR	VG = 0, R_L ≧ 2 kΩ		4.0		V/μs
Equivalent input noise voltage	V_{NI} (1)	Rg = 2.2 kΩ, RIAA, DIN audio weight		0.70		μV
	V_{NI} (2)	Rg = 300 Ω, IHF-A weight		0.50		μV
Current drain	I_{CC}			6.0		mA
Power dissipation	Pd			180		mW
Gain-bandwidth product	f_T			6		MHz

Test Circuits

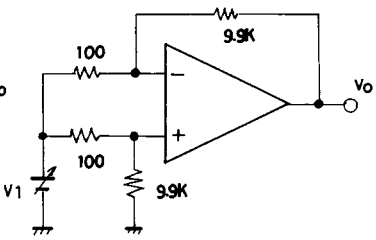
(1) V_{IO}, SVRR



(2) V_O



(3) CMRR, V_{ICM}



· V_{IO}: V_{CC} / V_{EE} = ±15V

· SVRR: V_{CC} = 15V, 5V; V_{EE} = −5V, −15V

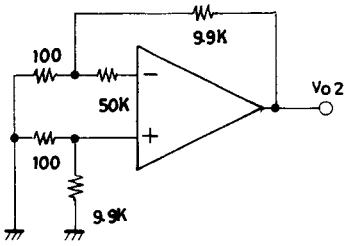
· $V_{IO} = V_O1 / 100$

$$SVR(+) \\ SVR(-) \Big\} = \left| \frac{\Delta V_O1}{100 \times 10V} \right|$$

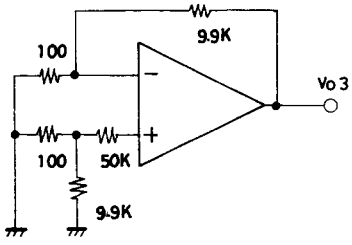
· CMRR V1 = ±7.5V

$$CMR = 20\log \frac{15 \times 100}{|\Delta V_O'|}$$

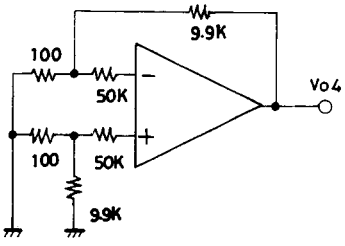
(4) I_B (+)



(5) I_B (−)



(6) I_{IO}

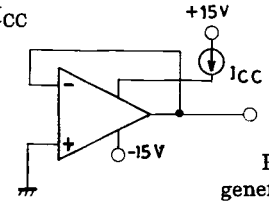


· $I_B(+) = \dfrac{|V_O2 - V_O1|}{50k\Omega \times 100}$

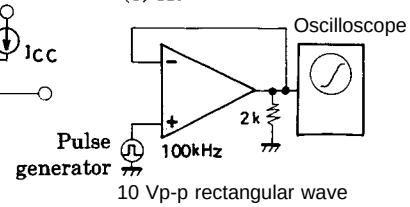
· $I_B(-) = \dfrac{|V_O3 - V_O1|}{50k\Omega \times 100}$

· $I_{IO} = \dfrac{|V_O4 - V_O1|}{50k\Omega \times 100}$

(7) I_{CC}

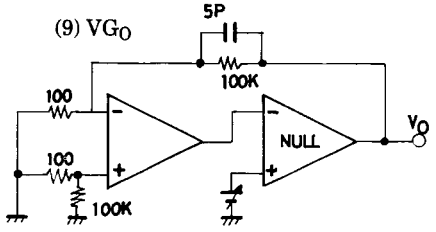


(8) SR



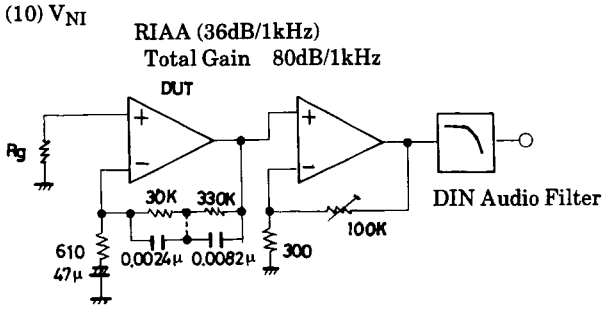
10 Vp-p rectangular wave

(9) VG_O



· $VG_O = 20\log \dfrac{1000 \times 20}{\Delta V_O}$

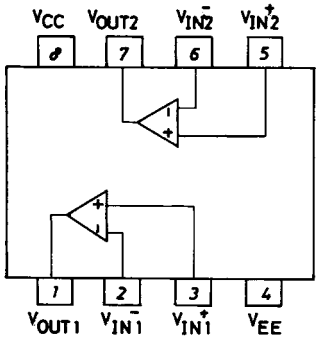
(10) V_{NI}



Unit (resistance: Ω, capacitance: F)

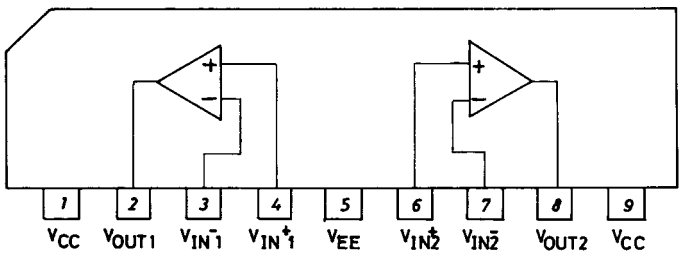
Pin Assignments

[LA6462M]



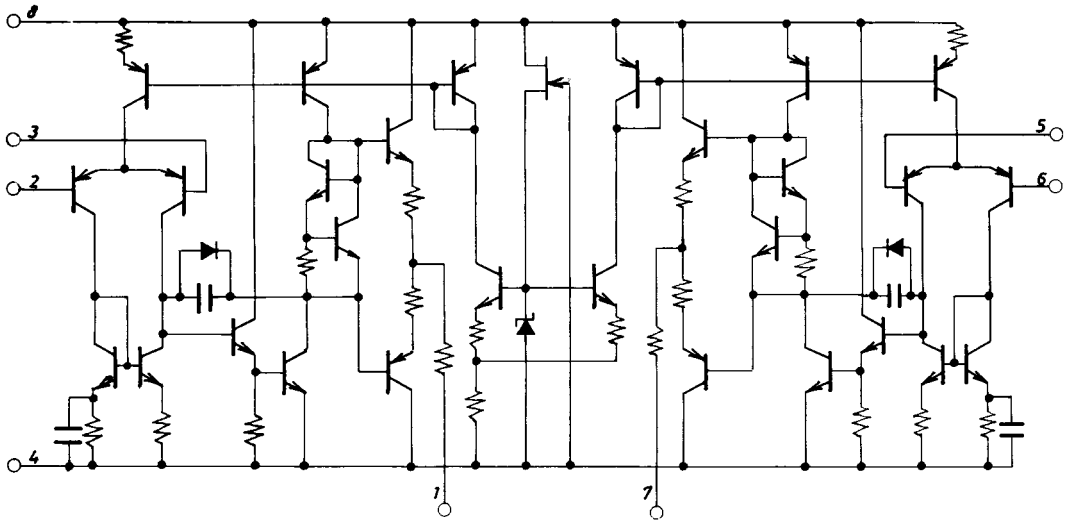
Top view

[LA6462S]

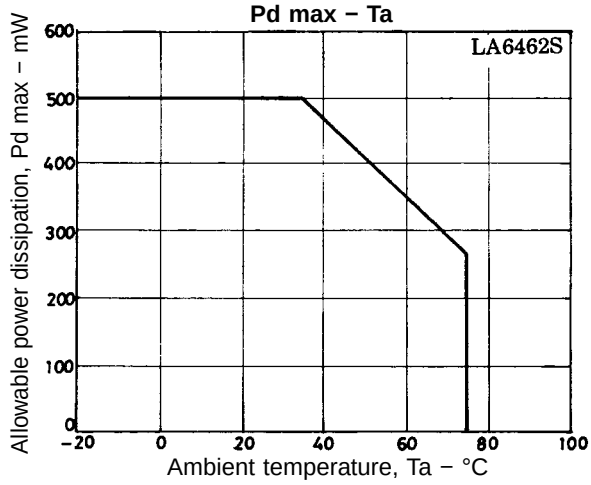


Top view

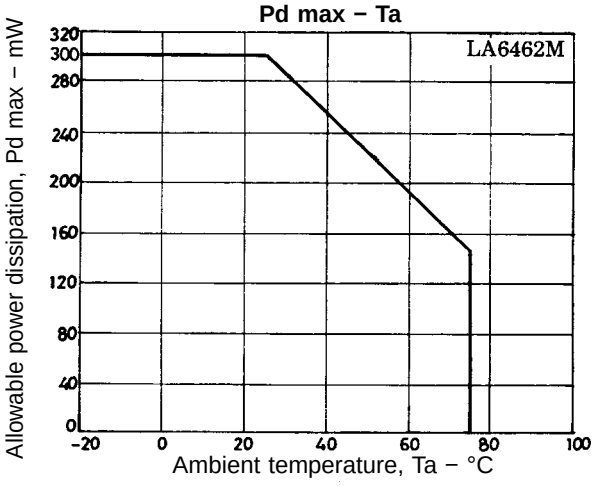
Equivalent Circuit



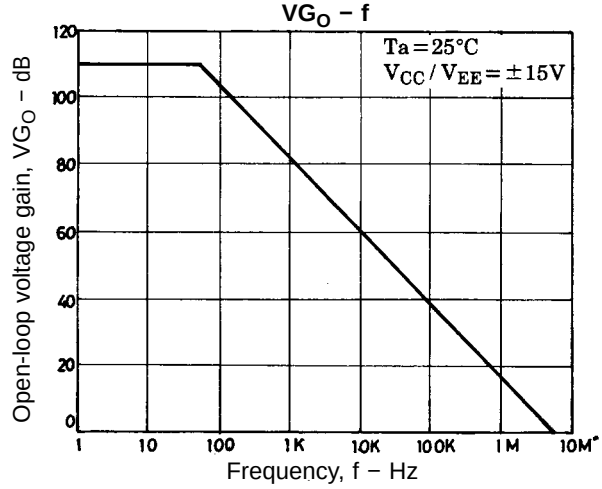
Pd max – Ta



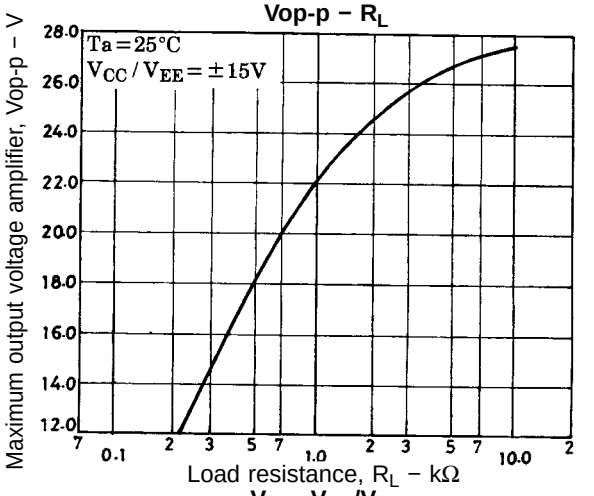
Pd max – Ta



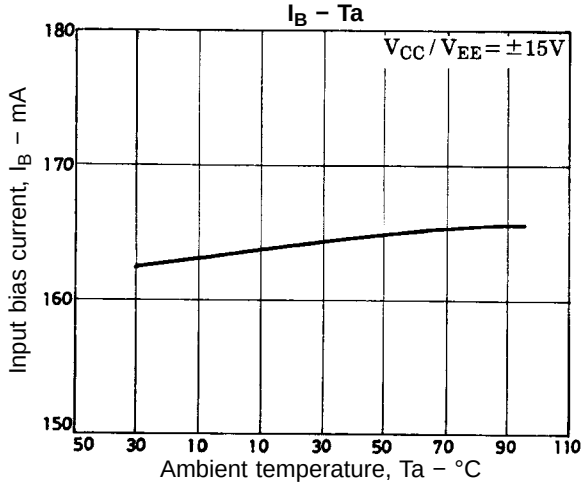
VG_O – f



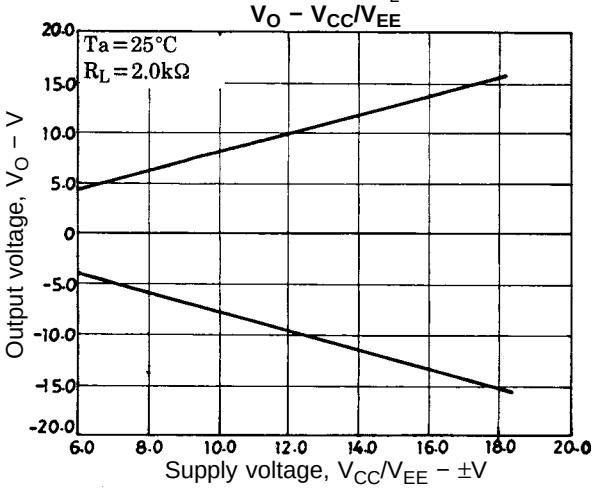
Vop-p – R_L



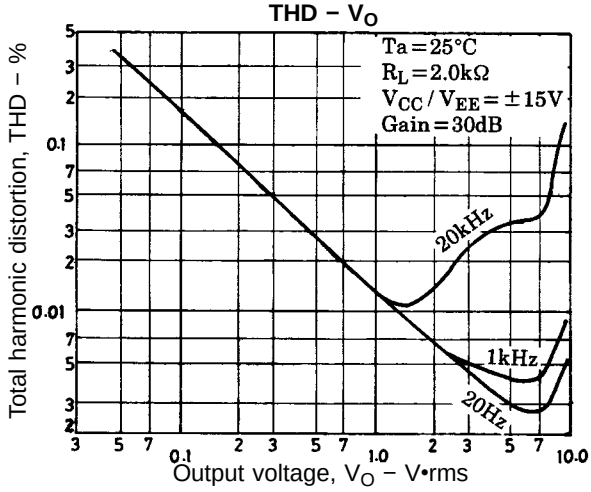
I_B – Ta



V_O – V_{CC}/V_{EE}



THD – V_O



V_{NI} – Rg