

**SANYO**

Monolithic Linear IC

**LA6462M, 6462S****High-Performance  
Dual Operational Amplifiers****Overview**

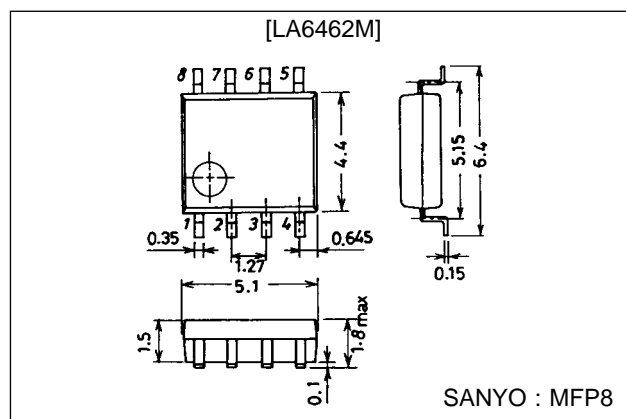
The LA6462 consists of two independent, internally phase compensated operational amplifiers. They feature low noise, high speed, wide band. Application areas include audio preamplifiers, active filters, and various electronic circuits.

**Features**

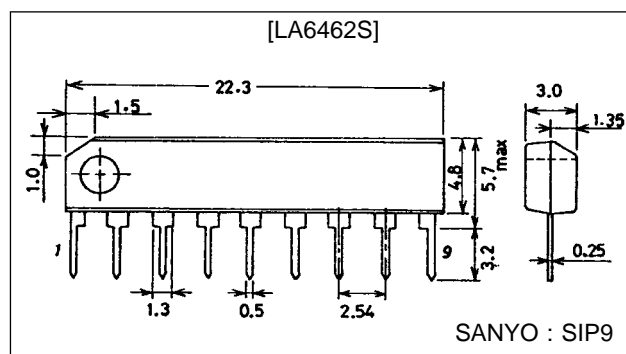
- Built-in phase compensation circuit  
(Gain  $\geq 10$  dB recommended)
- Low noise: Equivalent input noise voltage  
0.70  $\mu$ V typ ( $R_g = 2.2$  k $\Omega$  RIAA, DIN Audio).  
0.50  $\mu$ V typ ( $R_g = 300$   $\Omega$ , IHF-A)
- High speed: Slew rate 4.0 V/ $\mu$ s typ.
- Wide band: Gain-bandwidth product 6 MHz typ.

**Package Dimensions**

unit : mm

**3032-MFP8**

unit : mm

**3017C-SIP9****Specifications****Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC}/V_{EE}$		$\pm 18$	V
Differential input voltage	$V_{ID}$		$\pm 30$	V
Common-mode input voltage	$V_{IN}$		$\pm 15$	V
Allowable power dissipation	$P_d$ max	LA6462M	300	mW
		LA6462S	500	mW
Operating temperature	$T_{opr}$		-20 to +75	°C
Storage temperature	$T_{stg}$		-40 to +125	°C

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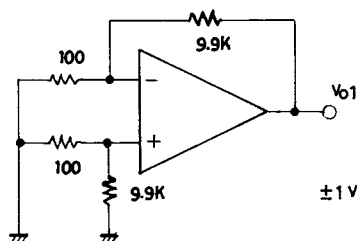
53096HA(II)/4050YT/8077KI/3277KI,TS No. 2064-1/5

Operating Characteristics at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 15\text{ V}$ ,  $V_{EE} = -15\text{ V}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Input offset voltage	$V_{IO}$	$R_S = 10\text{ k}\Omega$		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	$V_{ICM}$		$\pm 12$	$\pm 14$		V
Common-mode rejection ratio	CMRR		70	90		dB
Voltage gain	$V_{G_O}$	$R_L \geq 2\text{ k}\Omega$ , $V_O = \pm 10\text{ V}$	96	110		dB
Maximum output voltage	$V_O(1)$	$R_L \geq 10\text{ k}\Omega$		$\pm 14$		V
	$V_O(2)$	$R_L \geq 2\text{ k}\Omega$		$\pm 13$		V
Slew rate	SR	$V_G = 0$ , $R_L \geq 2\text{ k}\Omega$		4.0		V/ $\mu\text{s}$
Equivalent input noise voltage	$V_{NI}(1)$	$R_g = 2.2\text{ k}\Omega$ , RIAA, DIN audio weight		0.70		$\mu\text{V}$
	$V_{NI}(2)$	$R_g = 300\text{ }\Omega$ , IHF-A weight		0.50		$\mu\text{V}$
Current drain	$I_{CC}$			6.0		mA
Power dissipation	$P_d$			180		mW
Gain-bandwidth product	$f_T$			6		MHz

Test Circuits

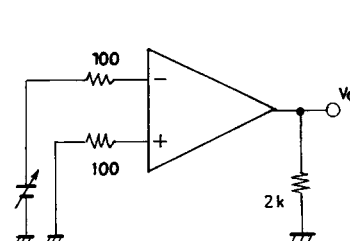
(1)  $V_{IO}$ , SVRR



$$\cdot V_{IO}: V_{CC}/V_{EE} = \pm 15\text{V}$$

$$\cdot \text{SVRR}: \begin{cases} V_{CC}=15\text{V}, 5\text{V} \\ V_{EE}=-5\text{V}, -15\text{V} \end{cases}$$

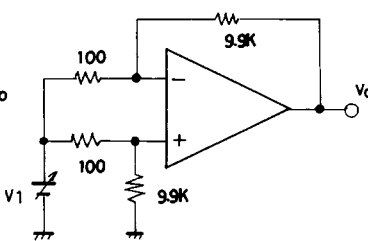
(2)  $V_O$



$$\cdot V_{IO} = V_{O1} / 100$$

$$\left. \begin{matrix} \text{SVR}(+) \\ \text{SVR}(-) \end{matrix} \right\} = \left| \frac{\Delta V_{O1}}{100 \times 10\text{V}} \right|$$

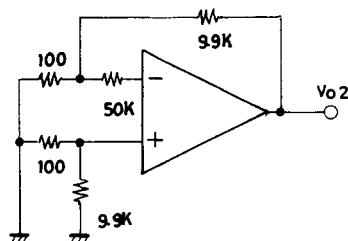
(3) CMRR,  $V_{ICM}$



$$\cdot \text{CMRR } V_1 = \pm 7.5\text{V}$$

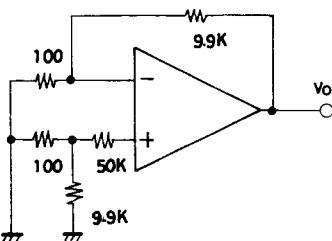
$$\text{CMR} = 20 \log \frac{15 \times 100}{|\Delta V_{O'}|}$$

(4)  $I_B(+)$



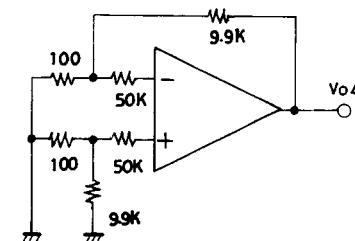
$$\cdot I_B(+) = \frac{|V_{O2} - V_{O1}|}{50\text{k}\Omega \times 100}$$

(5)  $I_B(-)$



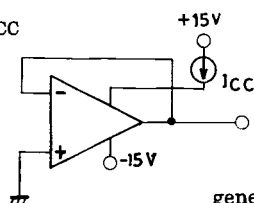
$$\cdot I_B(-) = \frac{|V_{O3} - V_{O1}|}{50\text{k}\Omega \times 100}$$

(6)  $I_{IO}$

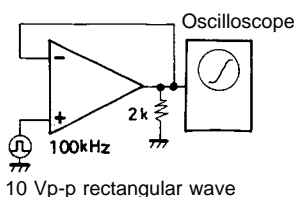


$$\cdot I_{IO} = \frac{|V_{O4} - V_{O1}|}{50\text{k}\Omega \times 100}$$

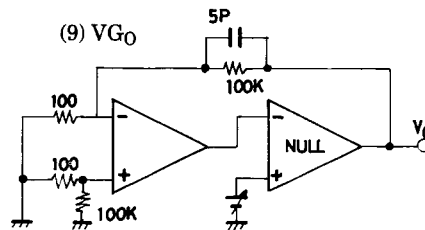
(7)  $I_{CC}$



(8) SR

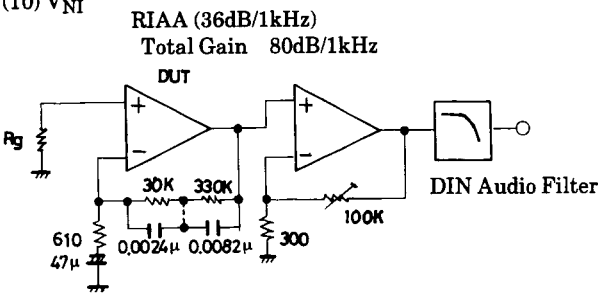


(9)  $V_{G_O}$

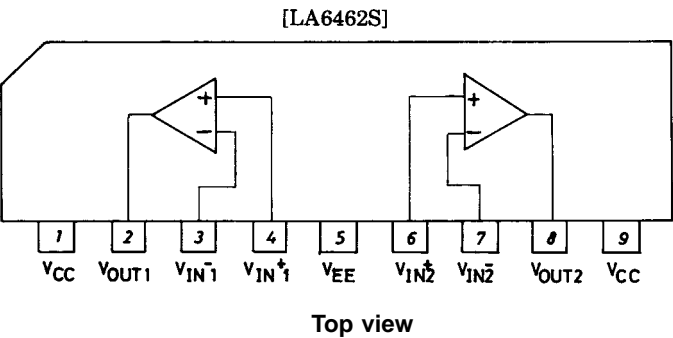
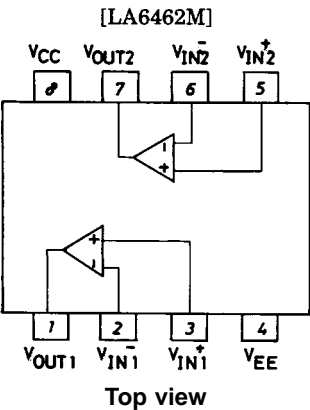


$$\cdot V_{G_O} = 20 \log \frac{1000 \times 20}{\Delta V_O}$$

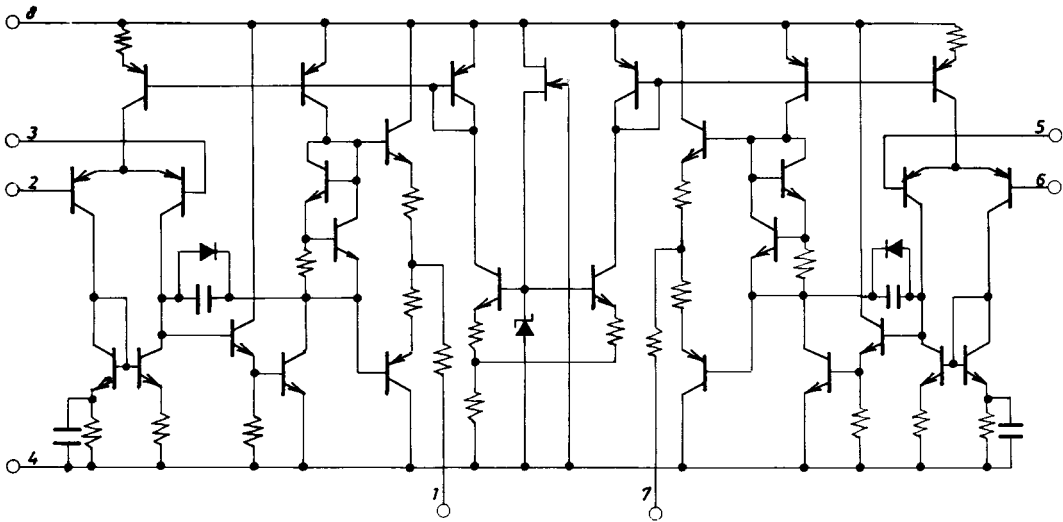
(10)  $V_{NI}$

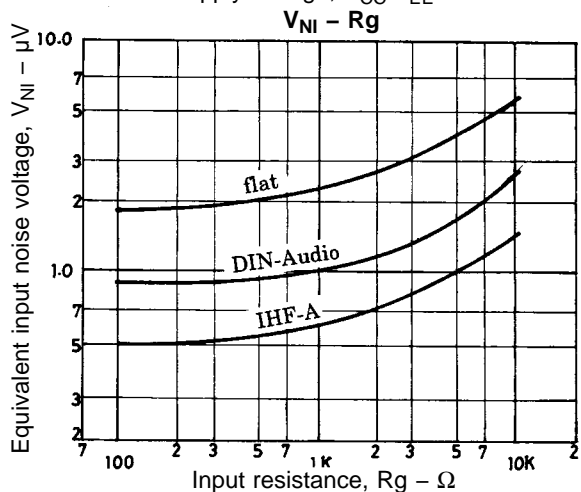
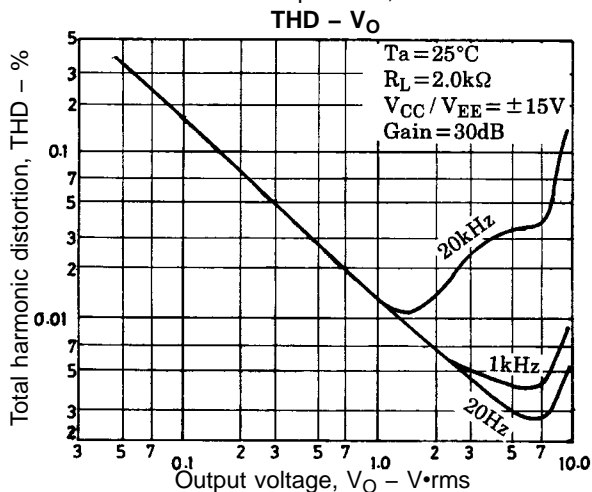
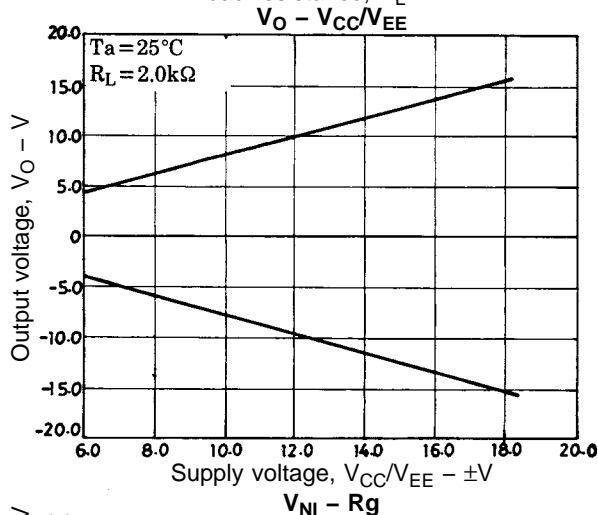
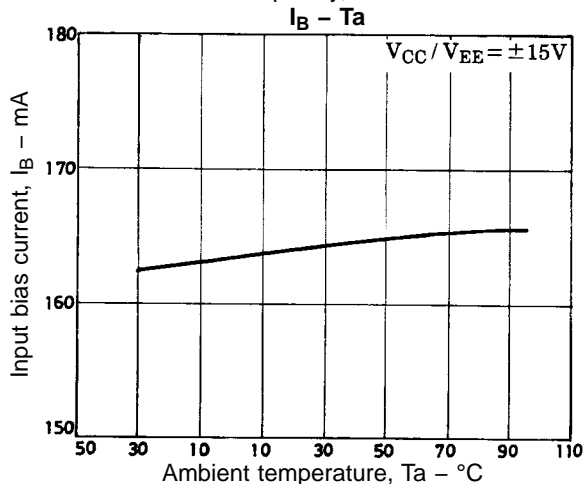
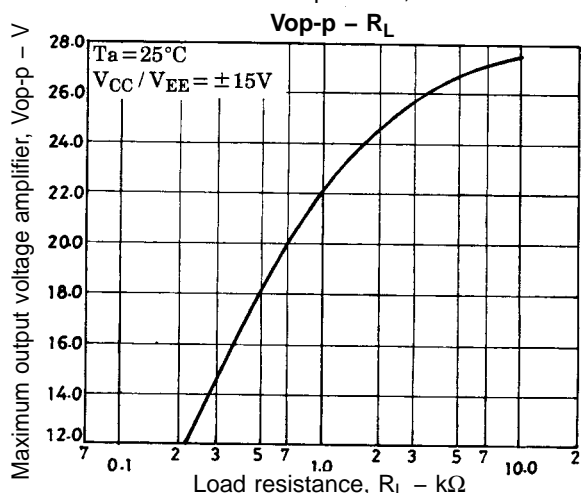
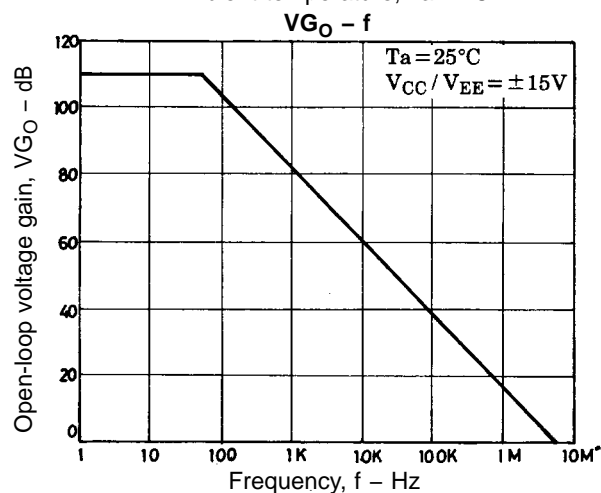
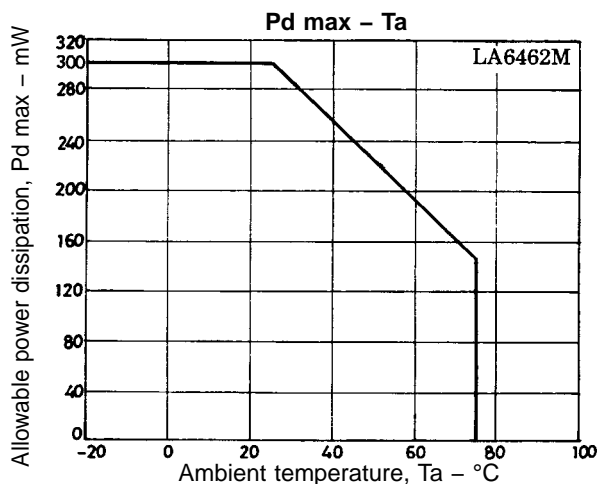
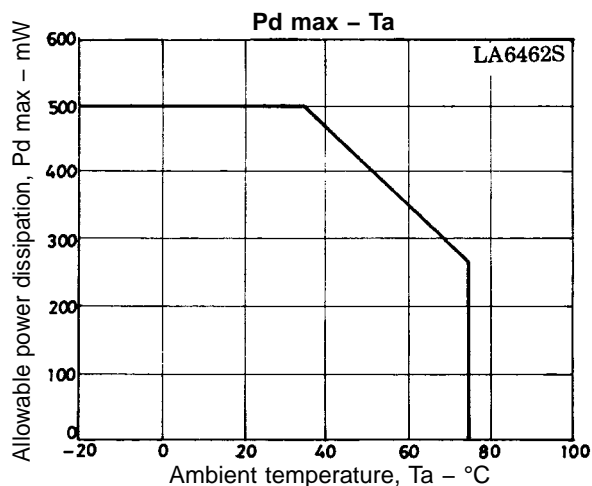


Pin Assignments



Equivalent Circuit





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