Ordering number : EN5307A

Monolithic Linear IC

LA6602V

I-V Amplifier for MiniDisc Drives

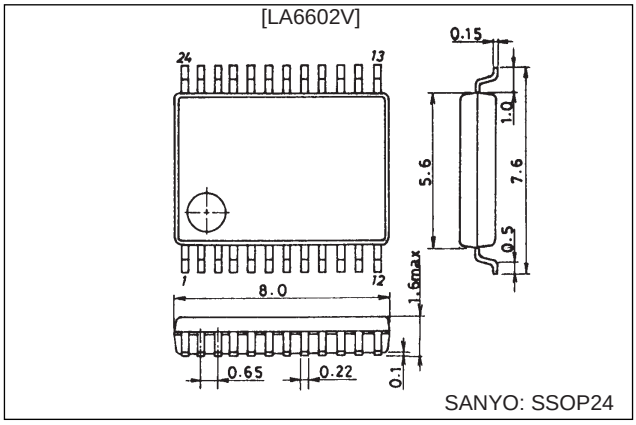
Features

- The LA6602V is optimal as an interface IC between the PD and servo ICs used in MD PU modules.
- Eight buffer amplifier channels
- On-chip low-noise high-bandwidth amplifier RF block

Package Dimension

unit: mm

3175A-SSOP24



Specifications

Maximum Ratings at Ta = 25°C

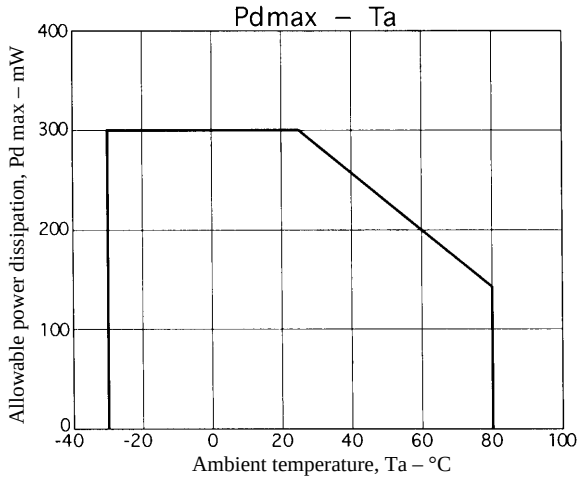
Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		13.0	V
Allowable power dissipation	Pd max	Independent IC	300	mW
Operating temperature	Topr		–30 to +80	°C
Storage temperature	Tstg		–40 to +125	°C

Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		3.6 to 12.0	V

Operating Characteristics at Ta = 25°C, V_{CC} /V_{EE} = ± 2.5 V

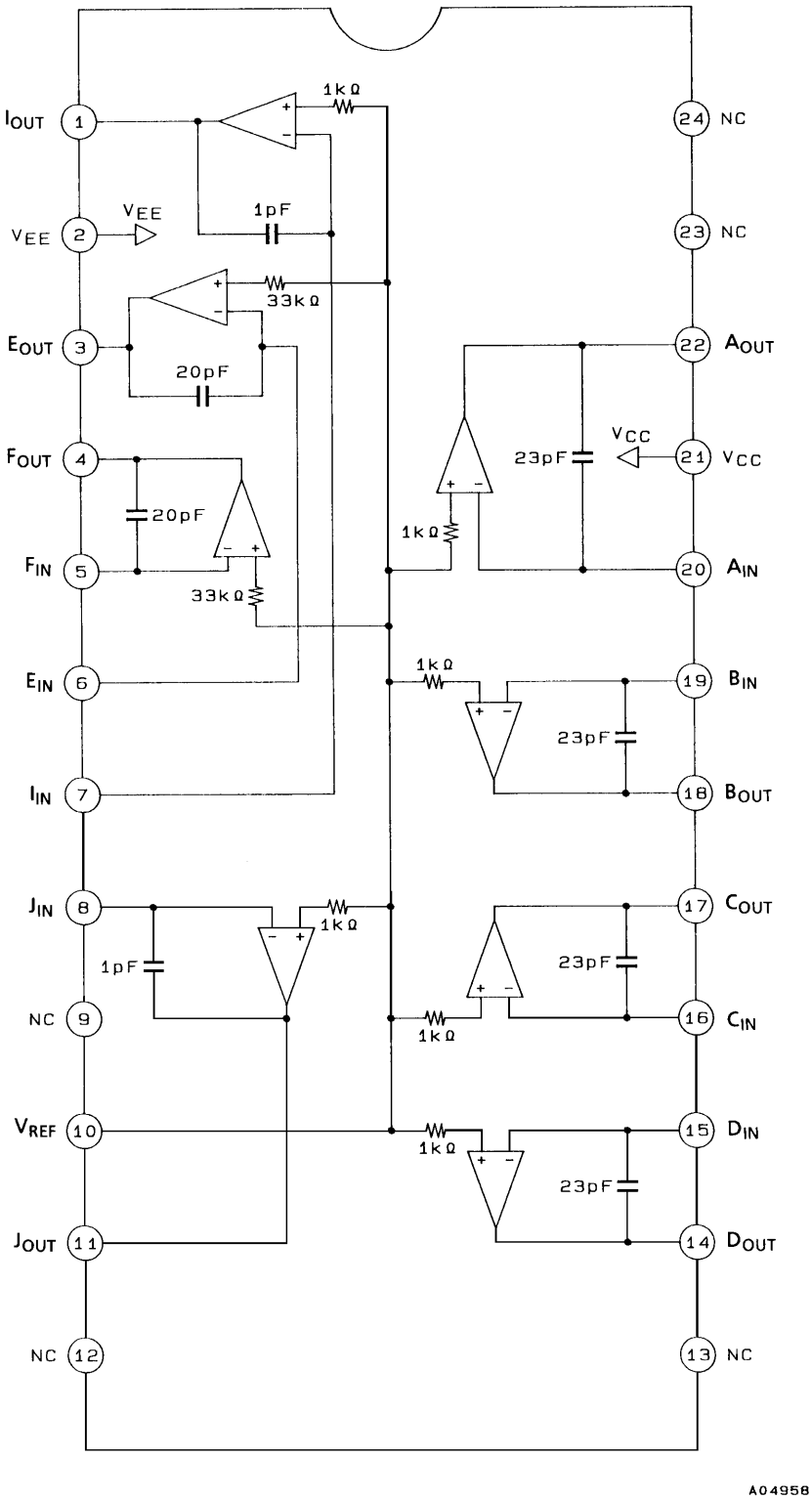
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	See Figure 1.	5	10	20	mA
[Amplifiers A through D]						
Output offset voltage	V_{IO}	See Figure 2.		2	7	mV
Maximum output voltage	V_O max	R_L = 4.7 kΩ, V_{IN} = –1 V See Figure 3.	2.0			V
Minimum output voltage	V_O min	R_L = 4.7 kΩ, V_{IN} = +1 V See Figure 4.			–2.0	V
Gain-bandwidth product	f_T	20 [dB] amp GV = 0 [dB] See Figure 4.	0.5	0.7		MHz
[Amplifiers E and F]						
Output offset voltage	V_{IO}	See Figure 2.		2	7	mV
Maximum output voltage	V_O max	R_L = 4.7 kΩ, V_{IN} = –1 V See Figure 3.	2.0			V
Minimum output voltage	V_O min	R_L = 4.7 kΩ, V_{IN} = +1 V See Figure 4.			–2.0	V
Gain-bandwidth product	f_T	20 [dB] amp GV = 0 [dB] See Figure 4.	0.5	0.7		MHz
[Amplifiers I and J]						
Output offset voltage	V_{IO}	See Figure 2.		20	50	mV
Output offset voltage difference	V_{IO} I-J			3	7	mV
Maximum output voltage	V_O max	R_L = 2 kΩ, V_{IN} = –1 V See Figure 3.	1.5			V
Minimum output voltage	V_O min	R_L = 2 kΩ, V_{IN} = +1 V See Figure 4.			–1.5	V
Gain-bandwidth product	f_T	20 [dB] amp GV = 0 [dB] See Figure 4.	6	8		MHz



Pin Functions

Pin No.	Pin	Function
1	I_{OUT}	IV amplifier I output
2	V_{EE}	IC substrate (lowest) voltage
3	E_{OUT}	IV amplifier E output
4	F_{OUT}	IV amplifier F output
5	F_{IN}	IV amplifier F input
6	E_{IN}	IV amplifier E input
7	I_{IN}	IV amplifier I input
8	J_{IN}	IV amplifier J input
9	NC	Unused. Must be left open.
10	V_{REF}	External reference voltage
11	J_{OUT}	IV amplifier J output
12	NC	Unused. Must be left open.
13	NC	Unused. Must be left open.
14	D_{OUT}	IV amplifier D output
15	D_{IN}	IV amplifier D input
16	C_{IN}	IV amplifier C input
17	C_{OUT}	IV amplifier C output
18	B_{OUT}	IV amplifier B output
19	B_{IN}	IV amplifier B input
20	A_{IN}	IV amplifier A input
21	V_{CC}	Power-supply voltage
22	A_{OUT}	IV amplifier A output
23	NC	Unused. Must be left open.
24	NC	Unused. Must be left open.

Block Diagram



Stipulated Test Circuits

I_{CCO}

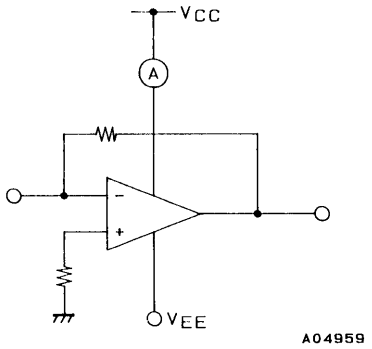


Figure 1

V_{IO}

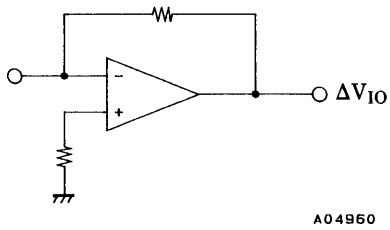
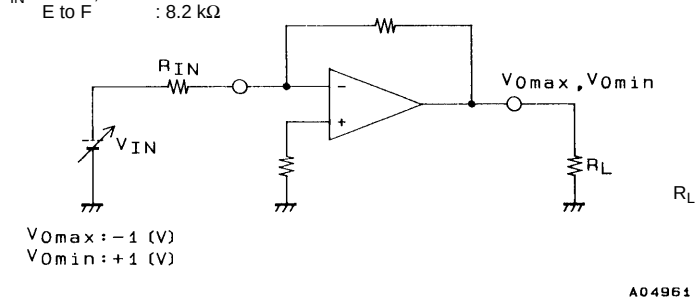


Figure 2

V_O max, V_O min

R_{IN} A to D, I to J : 6.7 kΩ
E to F : 8.2 kΩ

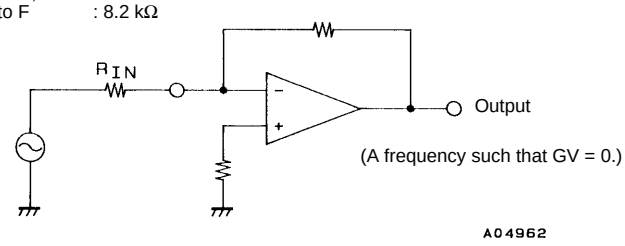


R_L = 4.7 kΩ(A to F)
2 kΩ(I to J)

Figure 3

f_T

R_{IN} A to D, I to J : 6.7 kΩ
E to F : 8.2 kΩ



(A frequency such that GV = 0.)

Figure 4

Sample Application Circuit