

ILA7052

MONO OUTPUT AMPLIFIER

GENERAL DESCRIPTION

The ILA7052 is a mono output amplifier in a 8-lead dual-in-line (DIL) plastic package. The device is designed for battery-fed portable audio applications.

Features:

- No external components
- No switch-on or switch-off clicks
- Good overall stability
- Low power consumption
- No external heatsink required
- Short-circuit proof

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Vp	Supply voltage range		3	6	18	V
I <sub>tot</sub>	Total quiescent current	R <sub>L</sub> =∞~	-	4	8	mA
G <sub>v</sub>	Voltage gain		38	39	40	dB
P <sub>o</sub>	Output power	THD = 10%; 8 Q	-	1,2	-	W
THD	Total harmonic distortion	P <sub>o</sub> =0,1W	-	0,2	1,0	%

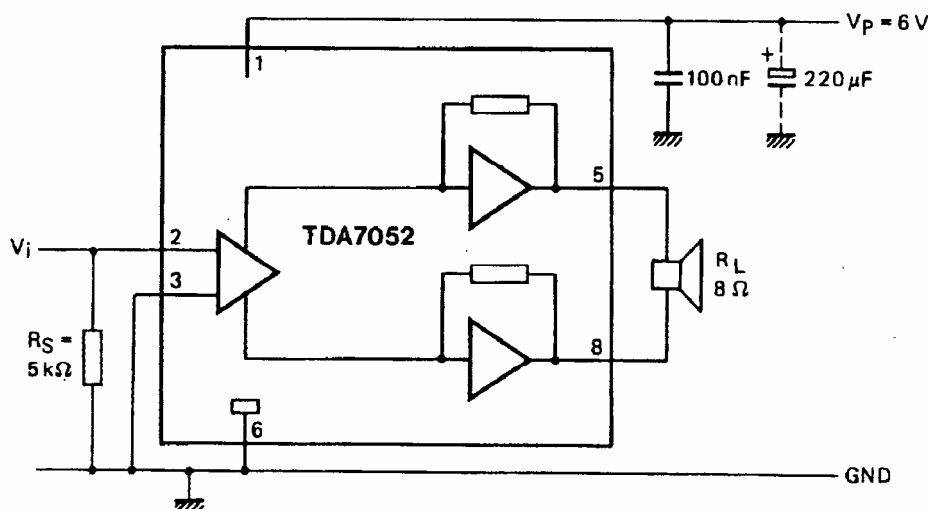
PACKAGE OUTLINE 8-lead DIL; plastic (SOT97); SOT97-1;

PINNING

1	Vp	supply voltage	5	OUT1	output 1
2	IN	input	6	GND2	ground (substrate)
3	GND1	ground (signal)	7	n.c.	not connected
4	n.c.	not connected	8	OUT2	output 2

RATINGS Limiting values in accordance with the Absolute Maximum System (IEC 134)

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Vp	Supply voltage	-	18	V
I <sub>oSM</sub>	Non-repetitive peak output current	-	1,5	A
T <sub>c</sub>	Crystal temperature	-	150	°C
T <sub>stg</sub>	Storage temperature range	-55	+150	°C



Application diagram

**CHARACTERISTICS**  $V_p = 6\text{ V}$ ;  $R_L = 8\ \Omega$ ;  $f = 1\text{ kHz}$ ;  $T_{amb} = 25\text{ }^\circ\text{C}$ ; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Supply						
$V_p$	Supply voltage range		3	6	18	V
$I_{tot}$	Total quiescent current	$R_L = \infty$	-	4	8	mA
$G_v$	Voltage gain		38	39	40	dB
$P_o$	Output power	THD = 10%	-	1,2	-	W
	Noise output voltage (RMS value)					
$V_{no(rms)}$		note 1	-	150	300	mV
$V_{no(rms)}$		note 2	-	60	-	mV
$f_r$	Frequency response		-	20 Hz to 20 kHz	-	Hz
SVRR	Supply voltage ripple rejection	note 3	40	50	-	dB
	DC output offset voltage pin 5 to 8	$R_s = 5\text{ k}\Omega$	-	-	100	mV
$\Delta V_{5-8}$						
THD	Total harmonic distortion	$P_O = 0.1\text{ W}$	-	0,2	1,0	%
$ Z_{il}$	Input impedance		-	100	-	$\text{k}\Omega$
$I_{bias}$	Input bias current		-	100	300	nA

Notes to the characteristics

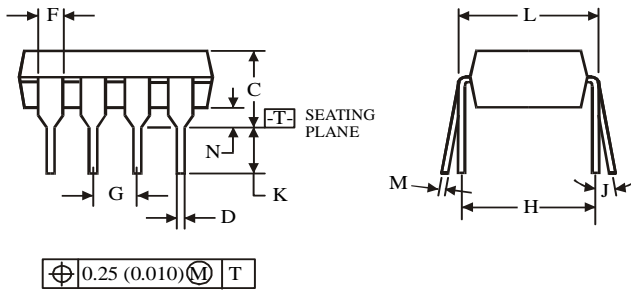
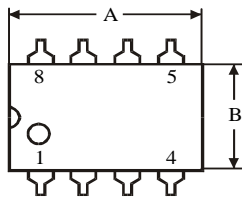
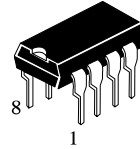
1. The unweighted RMS noise output voltage is measured at a bandwidth of 60 Hz to 15 kHz with a source impedance ( $R_s$ ) of 5  $\text{k}\Omega$ .

2. The RMS noise output voltage is measured at a bandwidth of 5 kHz with a source impedance of 0  $\Omega$  and a frequency of 500 kHz. With a practical load ( $R = 8\ \Omega$ ;  $L = 200\ \mu\text{H}$ ) the noise output current is only 100 nA.

3. Ripple rejection is measured at the output with a source impedance of 0  $\Omega$  and a frequency between 100 Hz and 10 kHz.

The ripple voltage = 200 mV (RMS value) is applied to the positive supply rail.

**N SUFFIX PLASTIC DIP  
(MS – 001BA)**



Symbol	Dimension, mm	
	MIN	MAX
A	8.51	10.16
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

**NOTES:**

- Dimensions "A", "B" do not include mold flash or protrusions.  
Maximum mold flash or protrusions 0.25 mm (0.010) per side.