

**SANYO**

No.2624A

**LA6510****1 A Power Operational Amplifier****OVERVIEW**

The LA6510 is a high-performance power operational amplifier IC capable of delivering larger output currents than conventional op amps.

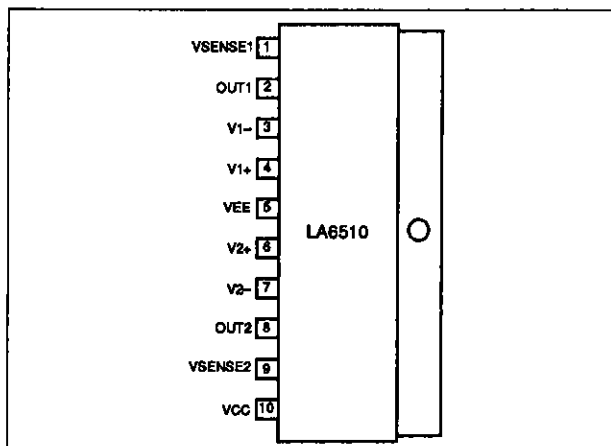
The LA6510 features an on-chip current limiter and provides high voltage gain and a high common-mode rejection ratio.

The LA6510 is an ideal choice for power applications such as DC servos, capstan drivers, actuator drivers, programmable power supplies and high-quality audio amplifiers.

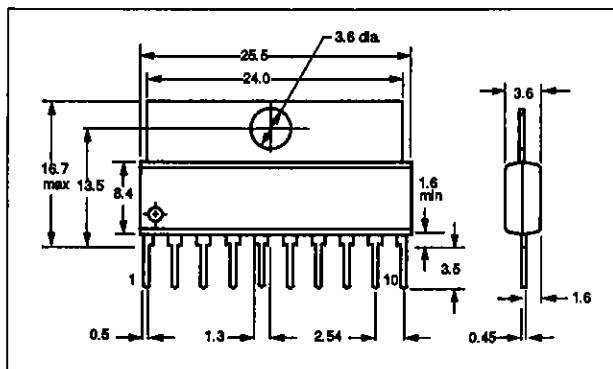
The LA6510 is available in 10-pin SIPs and operates from -15 V and 15 V supplies.

**FEATURES**

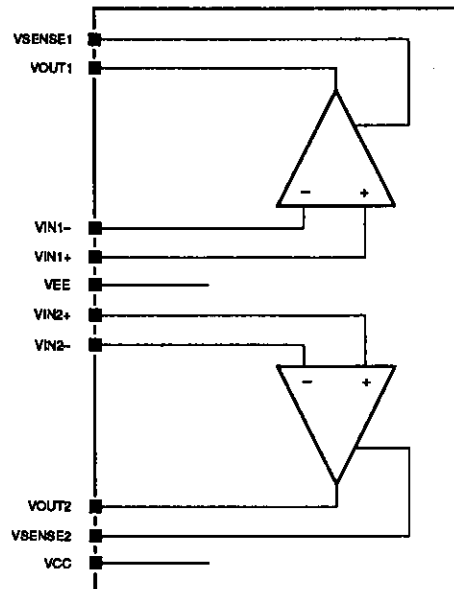
- 1 A output current
- 100 dB voltage gain
- 80 dB common-mode rejection
- 0.15 V/ $\mu$ s slew rate
- 2 mV offset voltage
- 10 nA offset current
- On-chip current limiter
- -15 V and 15 V supplies
- 10-pin SIP

**PINOUT****PACKAGE DIMENSIONS**

Unit: mm

**3064A-SIP10F**

## BLOCK DIAGRAM



## PIN DESCRIPTION

Number	Name	Description
1	VSENSE1	Voltage detect
2	OUT1	Output
3	V1-	Inverting input
4	V1+	Non-inverting input
5	VEE	-15 V supply
6	V2+	Non-inverting input
7	V2-	Inverting input
8	OUT2	Output
9	VSENSE2	Voltage detect
10	VCC	15 V supply

## SPECIFICATIONS

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltages	V <sub>CC</sub>	18	V
	V <sub>EE</sub>	-18	
Differential input voltage	V <sub>ID</sub>	30	V
Common-mode input voltage	V <sub>ICOM</sub>	±15	V
Output current	I <sub>o</sub>	1.0	A
Power dissipation	P <sub>d</sub>	2.5	W
Operating temperature range	T <sub>opr</sub>	-20 to 75	deg. C
Storage temperature range	T <sub>stg</sub>	-55 to 150	deg. C

**Recommended Operating Conditions**

$T_a = 25 \text{ deg. C}$

Parameter	Symbol	Rating	Unit
Supply voltages	$V_{CC}$	15	V
	$V_{EE}$	-15	

**Electrical Characteristics**

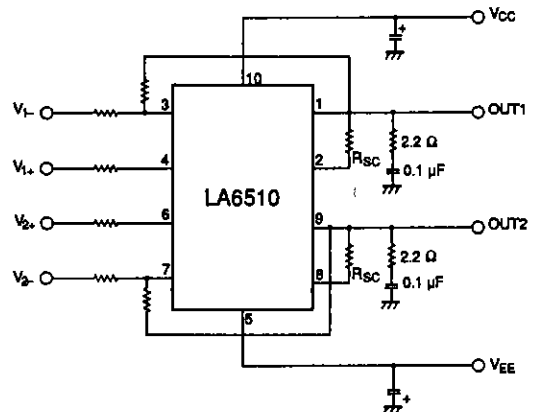
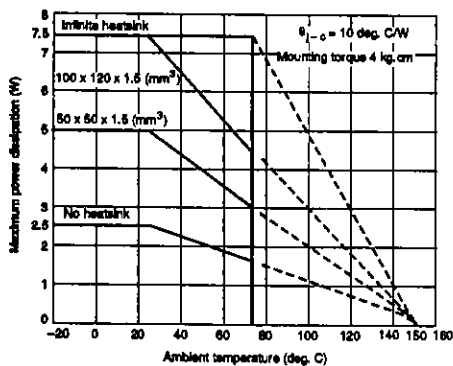
$V_{CC} = 15 \text{ V}$ ,  $V_{EE} = -15 \text{ V}$ ,  $T_a = 25 \text{ deg. C}$  unless otherwise noted

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$		-	12	20	mA
Input offset voltage	$V_{IO}$	$R_s \leq 10 \text{ k}\Omega$	-	2	6	mV
Input offset current	$I_{IO}$		-	10	200	nA
Input bias current	$I_B$		-	100	700	nA
Common-mode input voltage	$V_{ICM}$		-15	-	13	V
Common-mode rejection ratio	CMR		70	80	-	dB
Maximum output voltage	$V_O$	$R_L = 33 \Omega$	$\pm 12$	$\pm 13$	-	V
Voltage gain	$V_{G0}$		-	100	-	dB
Slew rate	SR	$G_V = 0$ , $R_L = 33 \Omega$ , $R = 2.2 \Omega$ , $L = 0.1 \mu\text{F}$	-	0.15	-	V/ $\mu\text{s}$
Equivalent input noise voltage	$V_{NI}$	$R_g = 1 \text{ k}\Omega$ , DIN AUDIO	-	2	-	$\mu\text{V}$
Supply voltage rejection ratio	SVR		-	30	150	$\mu\text{V/V}$
Limiting current	$I_{SC}$	$R_{SC} = 2.2 \Omega$	-	0.35	-	A

**Typical Performance Characteristics**

**TYPICAL APPLICATION**

**Power dissipation vs. ambient temperature**



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