Ordering number: EN 2624A

Monolithic Linear IC

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.

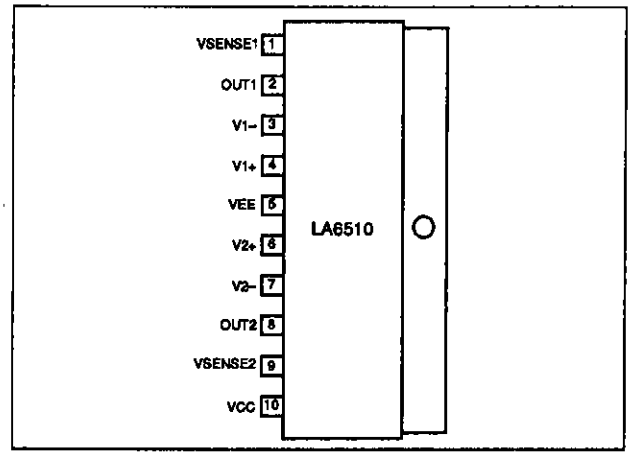
The LA6510 is an ideal choice for power applications such as DC servos, capstan drivers, actuator drivers, programmable power supplies and high-quality audio amplifiers.

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/μs slew rate
- 2 mV offset voltage
- 10 nA offset current
- On-chip current limiter
- −15 V and 15 V supplies
- 10-pin SIP

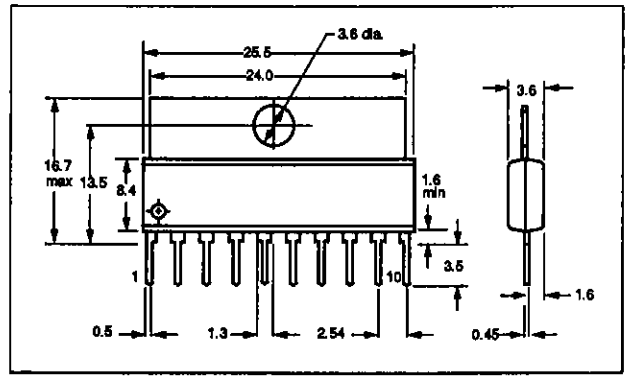
PINOUT



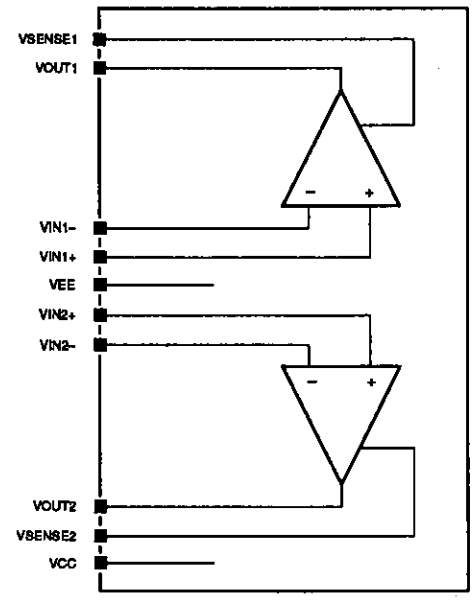
PACKAGE DIMENSIONS

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_{CC}	18	V
	V_{EE}	–18	
Differential input voltage	V_{ID}	30	V
Common-mode input voltage	V_{ICOM}	±15	V
Output current	I_o	1.0	A
Power dissipation	P_d	2.5	W
Operating temperature range	T_{opr}	–20 to 75	deg. C
Storage temperature range	T_{stg}	–55 to 150	deg. C

Recommended Operating Conditions

T_a = 25 deg. C

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

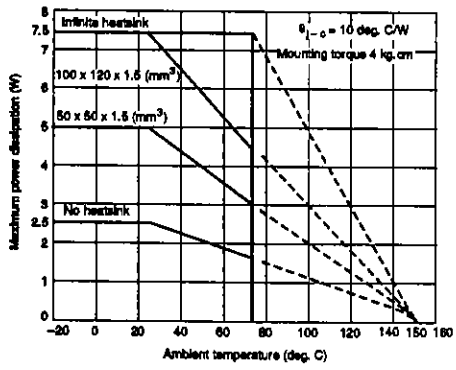
Electrical Characteristics

V_{CC} = 15 V, V_{EE} = −15 V, T_a = 25 deg. C unless otherwise noted

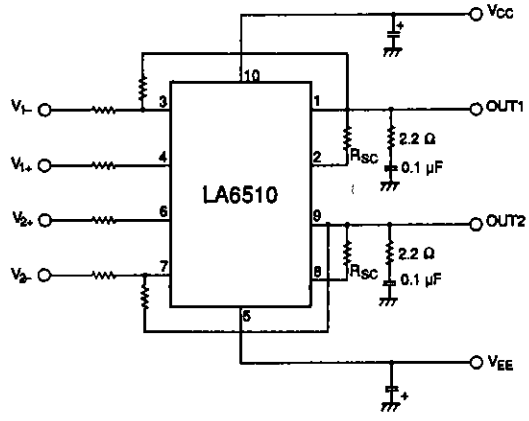
Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent current	I_{CCO}		–	12	20	mA
Input offset voltage	V_{IO}	$R_s \leq 10$ kΩ	–	2	6	mV
Input offset current	I_{IO}		–	10	200	nA
Input bias current	I_B		–	100	700	nA
Common-mode input voltage	V_{ICM}		−15	–	13	V
Common-mode rejection ratio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

Typical Performance Characteristics

Power dissipation vs. ambient temperature



TYPICAL APPLICATION



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