Ordering number: EN 4089

Monolithic Linear IC

# LA6511

## Power Operational Amplifier

## Overview

The LA6511 is a BLT-dedicated 1-channel driver developed for use in consumer and industrial equipment. (Do not use with ± power supply)

## Features and Functions

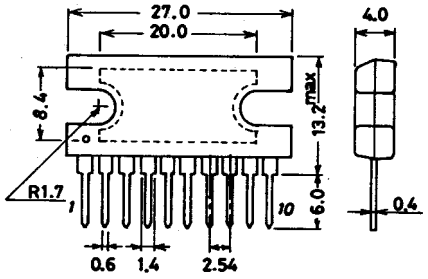
- High output current ($I_O$ max = 2.0 A)
- High gain
- Wide operating voltage range (4 to 24 V)
- Includes mute circuit (active low)

## Package Dimensions

unit : mm

**3024A-SIP10H**

[LA6511]




SANYO : SIP10H

## Specifications

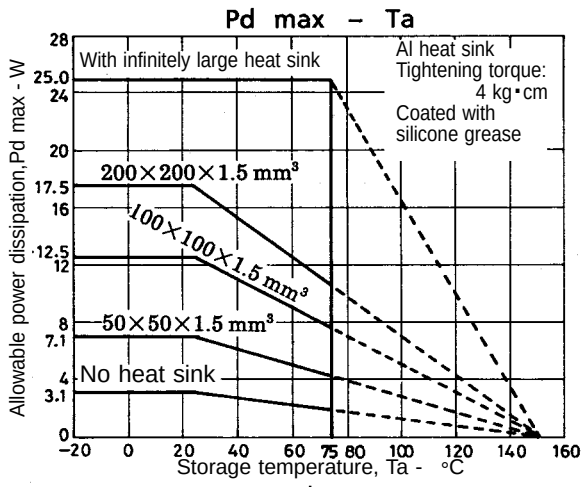
### Maximum Ratings at Ta = 25 °C

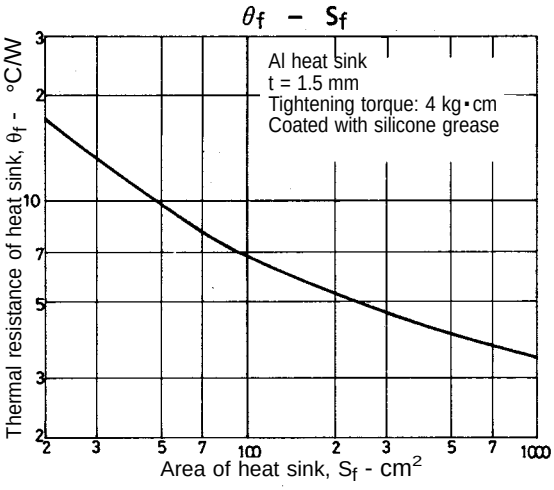
| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| Maximum supply voltage | $V_{CC}$max | 24 | V |
| Differential input voltage | $V_{ID}$ | 24 | V |
| Input common-mode voltage range | $V_{IN}$ | 24 | V |
| Allowable power dissipation | Pd max | 3.1 | W |
| Operating temperature | Topr | –20 to +75 | °C |
| Storage temperature | Tstg | –55 to +150 | °C |

### Operating Characteristics at Ta = 25 °C, $V_{CC}$ = 12V

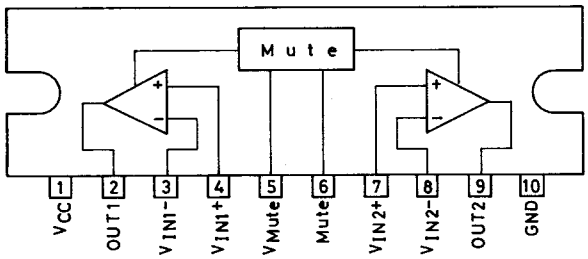
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---|---|---|---|---|---|
| Current drain with no load | $I_{CC}$ | | 17 | 25 | 35 | mA |
| Input offset voltage | $V_{IO}$ | $R_S \leqq 10$ kΩ | | 3 | 7 | mV |
| Input offset voltage difference | $DV_{IO}$ | $R_S \leqq 10$ kΩ | | 1 | 3 | mV |
| Input offset current | $I_{IO}$ | | | 10 | 100 | nA |
| Input bias current | $I_B$ | | | 50 | 500 | nA |
| Input common-mode voltage range | $V_{ICM}$ | | 0.5 | | 10 | V |
| Common-mode signal rejection ratio | CMR | | 70 | 80 | | dB |
| Maximum output voltage | $V_O$ | $R_L$ = 8.0 Ω | | 8 | | V |
| Voltage gain | $VG_O$ | | | 85 | | dB |
| Slew rate | SR | | | 0.15 | | V/μs |
| Supply voltage rejection ratio | SVR | | | 30 | | μV/V |
| Mute-off voltage | $V_{MOFF}$ | | | 1.0 | | V |
| Mute pin output current | $I_{MUTE}$ | | | 40 | | μA |

Notes)
- Thermal shutdown function on chip.
- The mute voltage operates versus the $V_M$ref voltage.

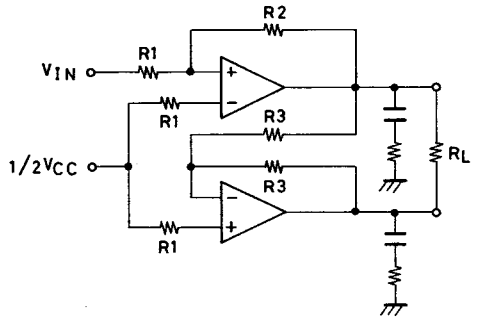


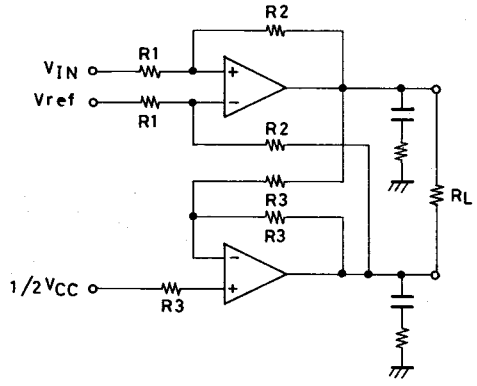

## Pin Assignment




## Sample Application Circuit




$$\text{Gain} = 20\log\frac{R2}{R1} + 6\text{dB}$$

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