



SANYO Semiconductors

# DATA SHEET

## LA6515 — Monolithic Linear IC 0.5A Power Operational Amplifier

### Overview

The LA6515 is a high-performance power operational amplifier IC capable of delivering larger output currents than conventional operational amplifiers.

The LA6515 features an on-chip current limiter and provides high voltage gain and a high common-mode rejection ratio. The LA6515 is an ideal choice for power applications such as DC servos, capstan drivers, actuator drivers, programmable power supplies and high-quality audio amplifiers.

The LA6515 is available in 10-pin SIPs and operates from  $-15\text{V}$  and  $15\text{V}$  supplies.

### Features

- 0.5A output current.
- 100dB voltage gain.
- 80dB common-mode rejection.
- 0.15V/ $\mu\text{s}$  slew rate.
- 2mV offset voltage.
- 10nA offset current
- On-chip current limiter.
- $-15\text{V}$  and  $15\text{V}$  supplies.
- 10-pin SIP.

### Specifications

Maximum Ratings at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	$V_{CC}/V_{EE}$		$\pm 18$	V
Differential input voltage	$V_{ID}$		30	V
Common-mode input voltage	$V_{ICM}$		$\pm 15$	V
Output current	$I_O$ max		1.0	A
Allowable power dissipation	$P_d$ max		1.3	W
Operating temperature	$T_{opr}$		$-20$ to $+75$	$^\circ\text{C}$
Storage temperature	$T_{stg}$		$-55$ to $+150$	$^\circ\text{C}$

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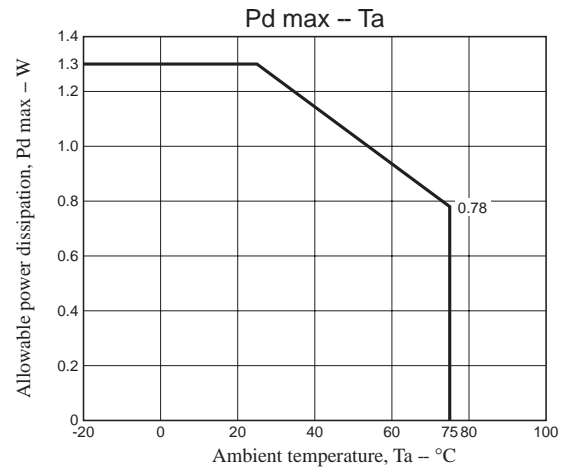
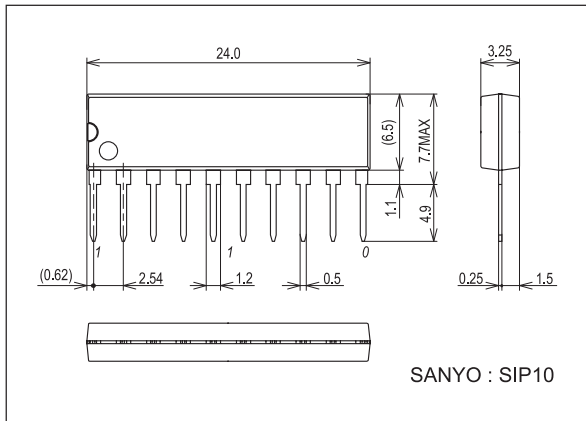
# LA6515

**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{CC}/V_{EE} = \pm 15\text{V}$

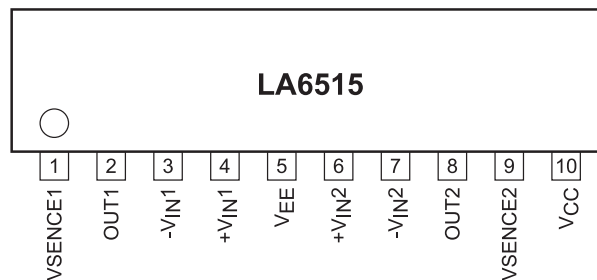
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{CCO}$		6	12	20	mA
Input offset voltage	$V_{IO}$	$R_S \leq 10\text{k}\Omega$		2	6	mV
Input offset current	$I_{IO}$			10	200	nA
Input bias current	$I_B$			100	700	nA
Common-mode input voltage range	$V_{ICM}$		-15		+13	V
Common-mode rejection	CMR		70	80		dB
Maximum output voltage	$V_O$	$R_L = 33\Omega$	$\pm 12$	$\pm 13$		V
Voltage gain	$V_{GO}$			100		dB
Slew rate	SR	$GV = 0$ , $R_L = 33\Omega$ , $R = 2.2\Omega$ , $L = 0.1\mu\text{F}$		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	SVRR			30	150	$\mu\text{V/V}$
Limiting current	$I_{SC}$	$R_{SC} = 2.2\Omega$		0.35		A

## Package Dimensions

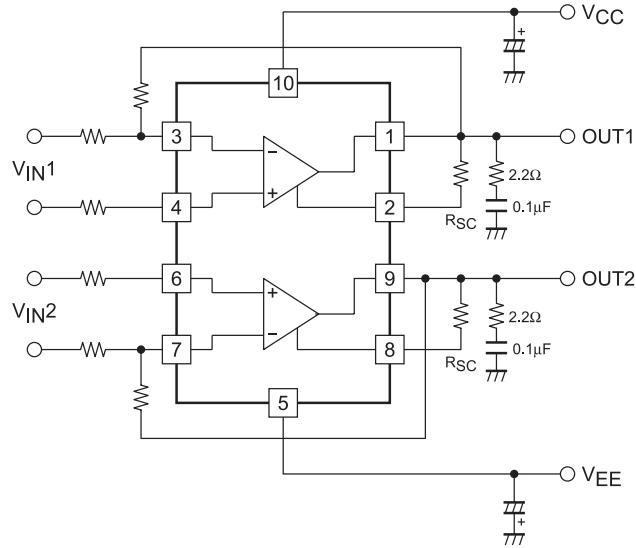
unit : mm (typ)  
3043C



## Pin Assignment



## Sample Application Circuit



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