



No.4424

LA6512,6513

High-Voltage
Dual Power Operational Amplifiers

Overview

LA6512 (SIP10F) and LA6513 (SIP10) are power operational amplifier ICs capable of withstanding high voltages of ± 30 V/1 A and are best suited for such voltage division devices as LCD drivers and general-purpose power operational amplifiers.

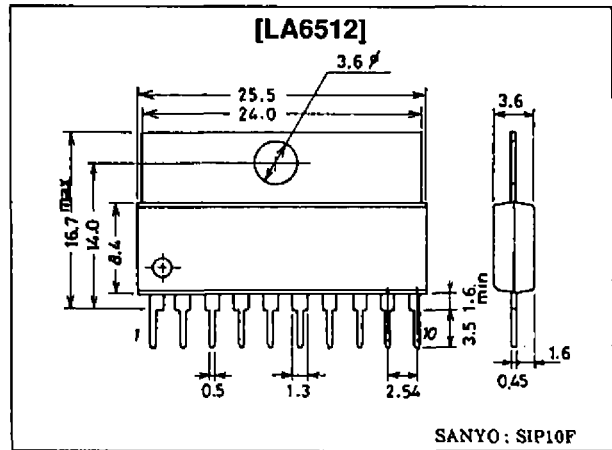
Features

- High output current (I_O max = 1.0A)
- High gain
- Equipped with current limiter pin (Adjustable by external settings)
- Supports single power source operation
- Withstands high voltages (± 30 V)

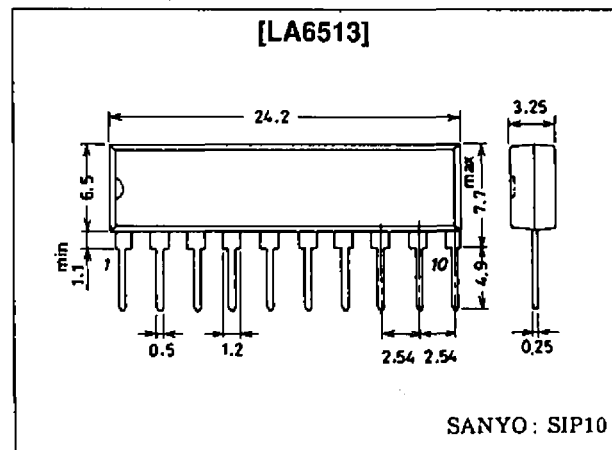
Package Dimensions

unit : mm

3046B-SIP10F



3043A-SIP10



Specifications

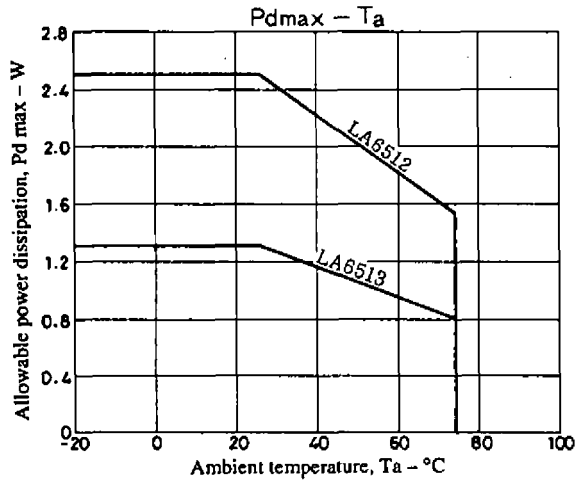
Maximum Ratings at $T_a = 25^\circ\text{C}$

			unit
Maximum supply voltage	V_{CC}/V_{EE} max	± 30	V
Differential input voltage	V_{IDIF}	56	V
Common mode input voltage	V_{ICOM}	± 28	V
Maximum output current	I_O max	1.0	A
Allowable power dissipation	Pd max	LA6512	2.5
		LA6513	1.3
Operating temperature	T_{opr}	-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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Operating Characteristics at Ta = 25°C, V_{CC}/V_{EE} = ±15

			min	typ	max	unit
No-load dissipation current	I _{CCO}		6	12	20	mA
Input offset voltage	V _{IO}	R _s ≤ 10kΩ		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}		-14		13	V
Common mode signal rejection ratio	C _{RM}		70	80		dB
Maximum output voltage	V _O max		±12	±13		V
Voltage gain	V _{GO}			100		dB
Slew rate	SR	G _V = 0, R _L = 33Ω, R = 2.2Ω, C = 0.1μF		0.15		V/μs
Supply voltage rejection ratio	SVRR			30	150	μV/V
Limiting current	I _{SC}	R _{SC} = 2.2Ω		0.35		A

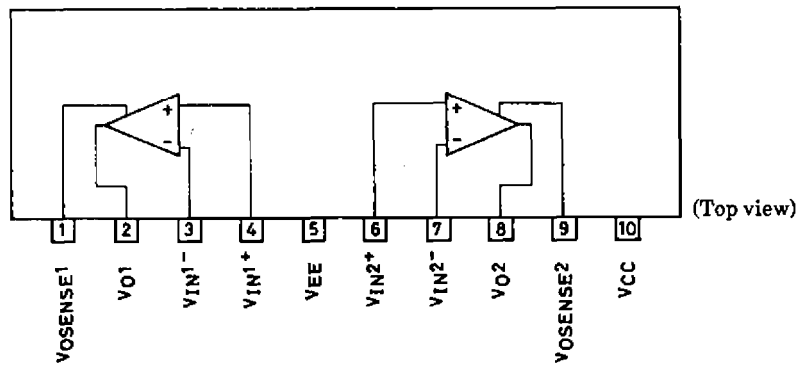


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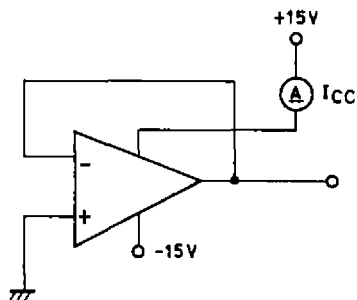
Pin Assignment

(LA6512, 6513 common)

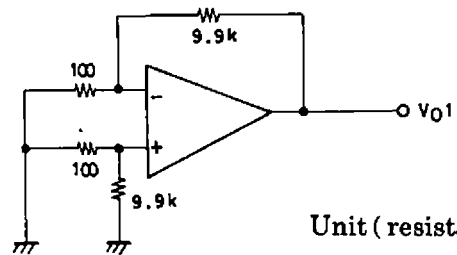


Test Circuit

I_{CC}



V_{IO}, SVRR

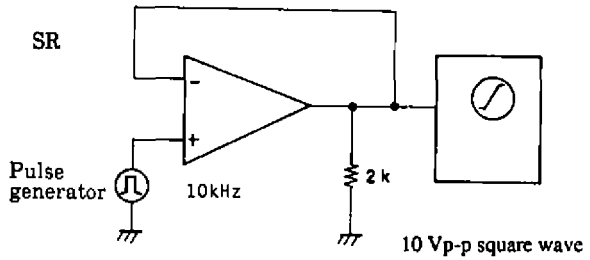
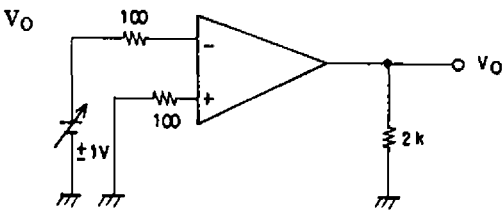
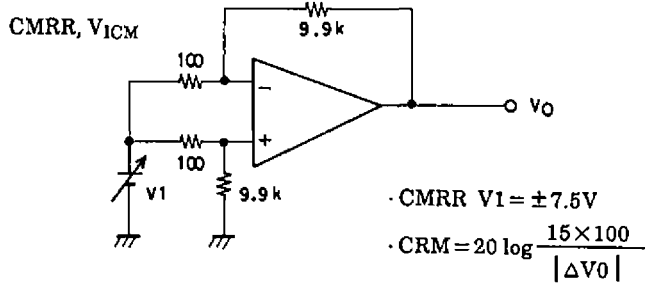
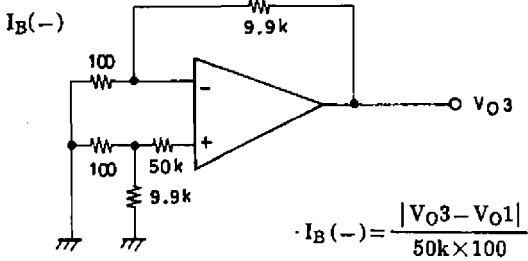
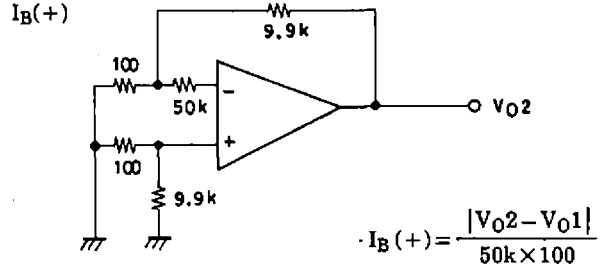
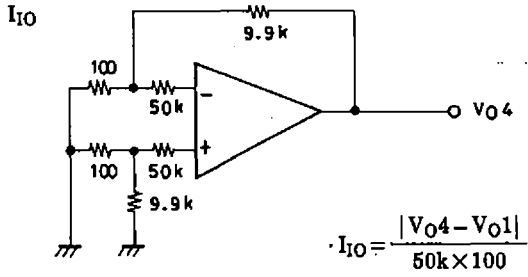


Unit (resistance:Ω)

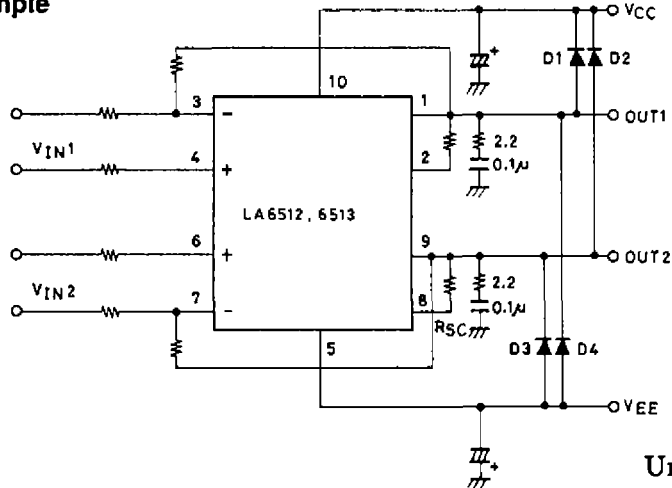
- V_{IO} is with V_{CC}/V_{EE} = ±15 V
- SVRR is with [V_{CC} = 15.5V, V_{EE} = -5, -15V]
- V_{IO} = VO1/100
- SVR (+) = | ΔV_{O1} / (100 × 10V) |
- SVR (-) = | ΔV_{O1} / (100 × 10V) |

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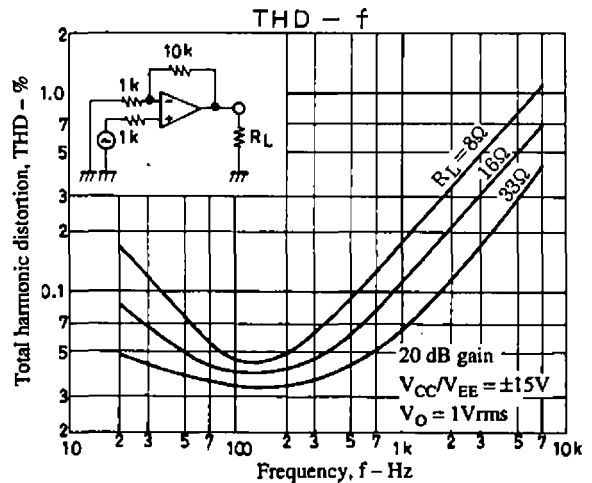
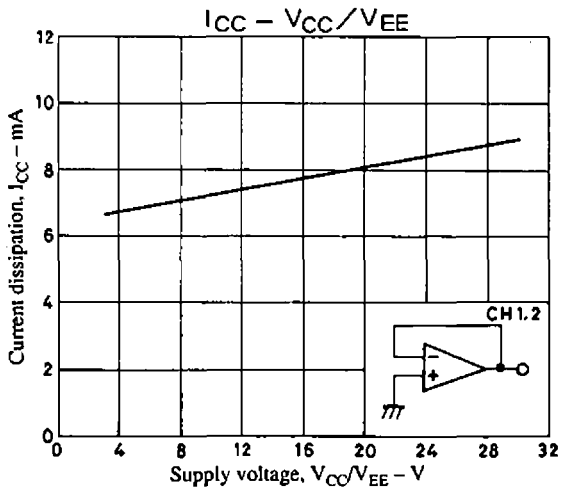
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Application Circuit Example



Note: When driving an inductive load, a D1 to D4 protective diode should be installed.



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