



SANYO Semiconductors

# DATA SHEET

## LA6531 — Monolithic Linear IC 2-Channel BTL-Use Drivers

### Overview

The LA6531 are 2-channel BTL-use drivers designed for compact disc pickup actuation.

### Functions and Features

- High output current ( $I_O$  max = 0.7A).
- Wide operating voltage range (4 to 15V) .
- Low input bias current.
- Output of amps 1 to 4 and buffer amplifier at muting-ON mode : OFF

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC}$ max		16	V
Differential input voltage	$V_{ID}$	Amplifier 2, amplifier 3	15	V
Common-mode input voltage	$V_{ICM}$	Amplifier 2, amplifier 3	15	V
Maximum input voltage	$V_{INB}$ max	Buffer amplifier	15	V
Maximum flow-in current at muting pin	$I_M$ max		1.0	mA
Maximum output current	$I_O$ max		0.7	A
Allowable power dissipation	$P_d$ max		1.9	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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60408 MS JK/40500TN (KT)/O319TA, TS No.3264-1/4

# LA6531

## Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC}$ max		5	V
Load resistance	$R_L$		8	$\Omega$

## Electrical Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = 5.0\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
No-loaded current drain 1	$I_{CC1}$	Mute OFF, pins 8, 9, 16 GND	5	10	20	mA
No-loaded current drain 2	$I_{CC2}$	Mute OFF, pins 8, 9, 16 GND	3	7	15	mA
No-loaded current drain 3	$I_{CC3}$	Mute OFF, pins 8, 9, 16 $1/2 V_{CC}$	10	20	30	mA
No-loaded current drain 4	$I_{CC4}$	Mute OFF, pins 8, 9, 16 $1/2 V_{CC}$	4	8	16	mA
Output offset voltage 1	$V_{OF1}$	Out 1 - Out 2	-50		+50	mV
Output offset voltage 2	$V_{OF2}$	Out 4 - Out 3	-50		+50	mV
Buffer input-output voltage difference	$V_{BIO}$	Buffer amplifier	-30		+30	mV
Buffer input voltage range	$V_{BICM}$	Buffer amplifier	1.5		$V_{CC}-1.5$	V
Common-mode input voltage range	$V_{ICM}$	Amplifier 2, amplifier 3	1.0		$V_{CC}-1.5$	V
Input bias current	$I_B$			50	300	nA
Output voltage	$V_O$	$R_L = 8.0 \Omega$	2.8	3.3		V
Bridge output voltage difference	$V_{OD}$	Pins 3-6, 11-14 $8\Omega$ load	1.8	2.2		V
Closed-circuit voltage gain	$V_G$		30	38		dB
Muting pin ON-state voltage	$V_M$			0.7		V
Muting pin flow-in current	$I_M$			3		$\mu\text{A}$

Note ) With thermal shutdown function

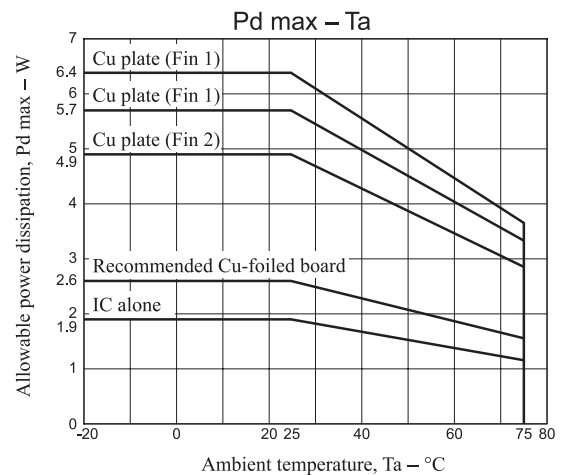
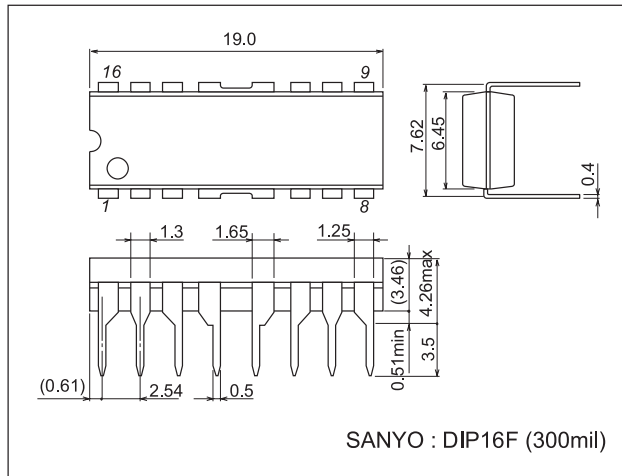
\* : The LA6531 is so designed that the outputs at OUT1 to OUT4 and the output at VBOUT are turned OFF.

\* : Be carefull in handling the LA6531, because dielectric breakdown is liable to occur.

## Package Dimensions

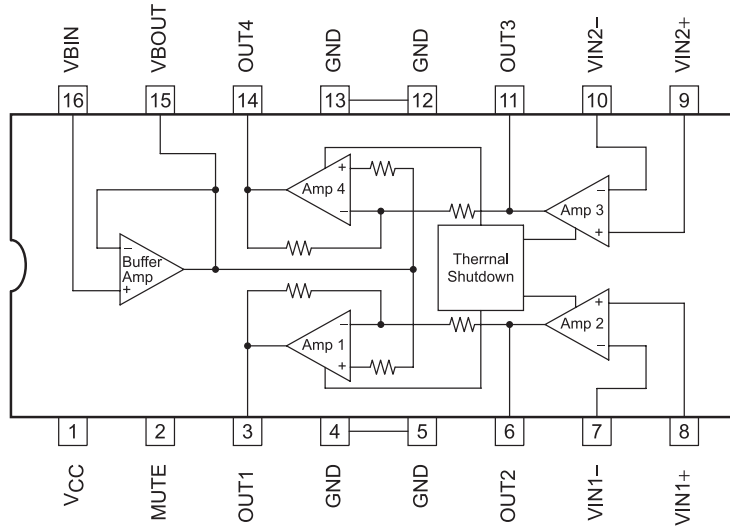
unit : mm (typ)

3054B

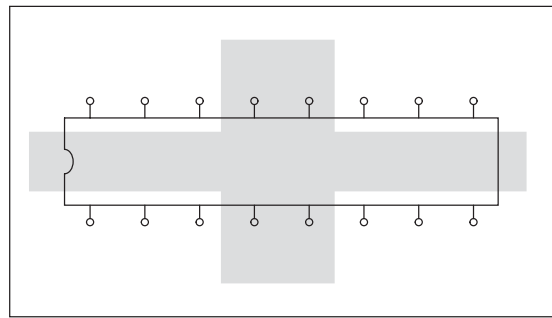


# LA6531

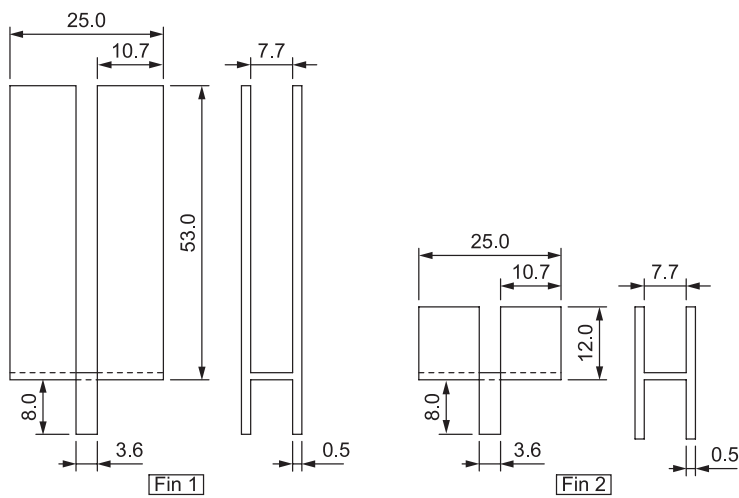
## Block Diagram



## Sample Printed Circuit Pattern



Cu-foiled area 80×60mm<sup>2</sup>



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