



LA6532M

4-Channel BTL-Use Driver

Overview

The LA6532M is a 4-channel BTL-use driver designed for compact disc pickup actuation.

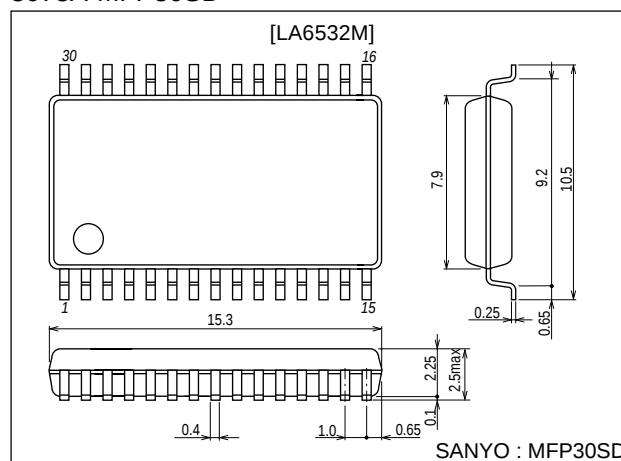
Functions and Features

- BTL-use 4-channel power amplifier.
- I_O max 700mA×2400mA×2 (with voltage limiter).
- With muting function.

Package Dimensions

unit:mm

3073A-MFP30SD



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		9	V
Allowable power dissipation	P_d max		0.9	W
Differential input voltage	V_{ID}		8	V
Common-mode input voltage	V_{ICM}		8	V
Maximum input voltage	V_{INB} max	Buffer amplifier	8	V
Muting pin voltage	V_{Mute}		8	V
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}		5	V
Load resistance	R_L	Between pins 3 and 4, 12 and 13, 18 and 19, 27 and 28	8	Ω

Operating 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}	Note 1	25	40	60	mA
No-loaded current drain 2	I_{CC2}	Note 2	5	9	20	mA
No-loaded current drain 3	I_{CC3}	Note 3	25	40	60	mA
No-loaded current drain 4	I_{CC4}	Note 4	5	9	20	mA

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output offset voltage 1	V_{OF1}	Note 5, amplifier 1, 2, 7, 8	-50		+50	mV
Output offset voltage 2	V_{OF2}	Note 5, amplifier 3, 4, 5, 6	-30		+30	mV
Buffer 1 input-output voltage difference	V_{BIO1}	Buffer amplifier 1	-30		+30	mV
Buffer 2 input-output voltage difference	V_{BIO2}	Buffer amplifier 2	0.5	0.6	0.8	V
Amplifier 2 input-output voltage difference	V_{IO2}	Amplifier 2	0.5	0.6	0.8	V
Amplifier 7 input-output voltage difference	V_{IO7}	Amplifier 7	0.5	0.6	0.8	V
Input bias current	I_B	Note 6		100	500	nA
Buffer input voltage range	V_{BICM}	Buffer amplifier	1.5		$V_{CC}-1.5$	V
Common-mode input voltage range	V_{ICM}		1.0		$V_{CC}-1.5$	V
Output source voltage	V_{O1}	$R_L=8.0\Omega$ 700mA amplifier, Note 7	3.4	3.6		V
Output sink voltage	V_{O2}	$R_L=8.0\Omega$ 700mA amplifier, Note 8		1.0	1.4	V
Output source voltage	V_{O3}	$R_L=8.0\Omega$ 400mA amplifier, Note 7	2.8	3.4		V
Output sink voltage	V_{O4}	$R_L=8.0\Omega$ 400mA amplifier, Note 8		1.6	2.2	V
Closed-circuit voltage gain	V_G			6.0		dB
Output limiting voltage	V_{OL}	Amplifier 3, amplifier 6		5.0		V
Muting pin off-state voltage	V_{Mute}			2.2		V
Muting pin off-state current	I_{Mute}			80		A

Note 1 : Muting OFF. Buffer $22k\Omega$ across V_{IN-} and V_O . V_{IN+} pin grounded

Note 2 : Muting ON. Buffer $22k\Omega$ across V_{IN-} and V_O . V_{IN+} pin grounded

Note 3 : Muting OFF. Buffer $22k\Omega$ across V_{IN-} and V_O . V_{IN+} pin connected to $1/2V_{CC}$

Note 4 : Muting ON. Buffer $22k\Omega$ across V_{IN-} and V_O . V_{IN+} pin connected to $1/2V_{CC}$

Note 5 : For bridge amplifier, represents the difference between outputs.

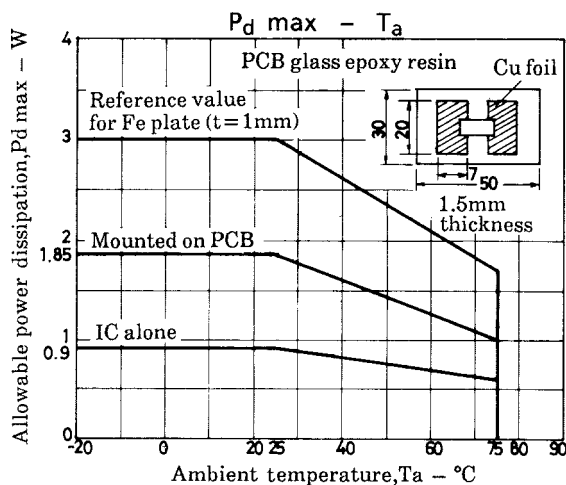
Note 6 : All V_{IN} connected to $1/2V_{CC}$. $100k\Omega$ connected to the input. Measure the voltage difference.

V_{IN} and V_O connected through $100k\Omega$. Measure the voltage difference between pins.

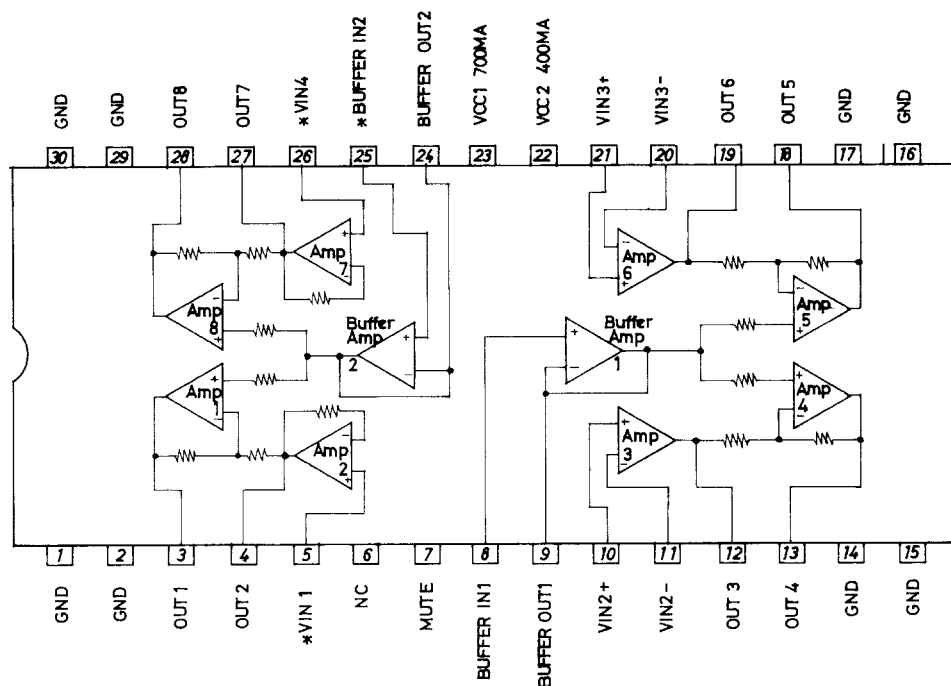
Note 7 : Voltage (source) relative to GND when 8Ω load is connected across outputs of bridge amplifier

Note 8 : Voltage (sink) relative to GND when 8Ω load is connected across outputs of bridge amplifier

* : Be careful in handling the LA6532M, because dielectric breakdown is liable to occur.



Equivalent Circuit Block Diagram



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