

DATA SHEET

Part No.	AN41023A
Package Code No.	HSOP042-P-0400D

SEMICONDUCTOR COMPANY
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Contents

- Overview 3
- Features 3
- Applications 3
- Package 3
- Type 3
- Application Circuit Example 4
- Pin Descriptions 5
- Absolute Maximum Ratings 6
- Operating Supply Voltage Range 6

AN41023A

4.5-ch. linear driver IC for CD, MD and DVD Player

■ Overview

AN41023A is a 4.5-ch. Linear driver IC incorporating the high-power operational amplifier system and suitable for CD and MD actuator and motor driver applications.

(ch.1 & ch.2: Actuator, ch.3: Spindle, ch.4A: Traverse, ch.4B: Loading)

■ Features

- Wide output dynamic range: Maximum output voltage of 6 V(typ.) when $S_{V_{CC}} = P_{V_{CC}} = 8\text{ V}$ and $R_L = 8\Omega$
- Built-in general purpose operational amplifier in each input part of ch.1, ch.2, ch.3 and ch.4A, and compatible for both linear input and PWM input.
- Built-in a channel switching, ch.4A for traverse and ch.4B for loading.
- Selectable loading mode among forward, reverse, brake and stand-by by the digital signal from a microcomputer.
- Built-in stand-by function.
- Built-in thermal shutdown circuit.

■ Applications

- CD, MD and DVD-Player actuator and motor driver applications.

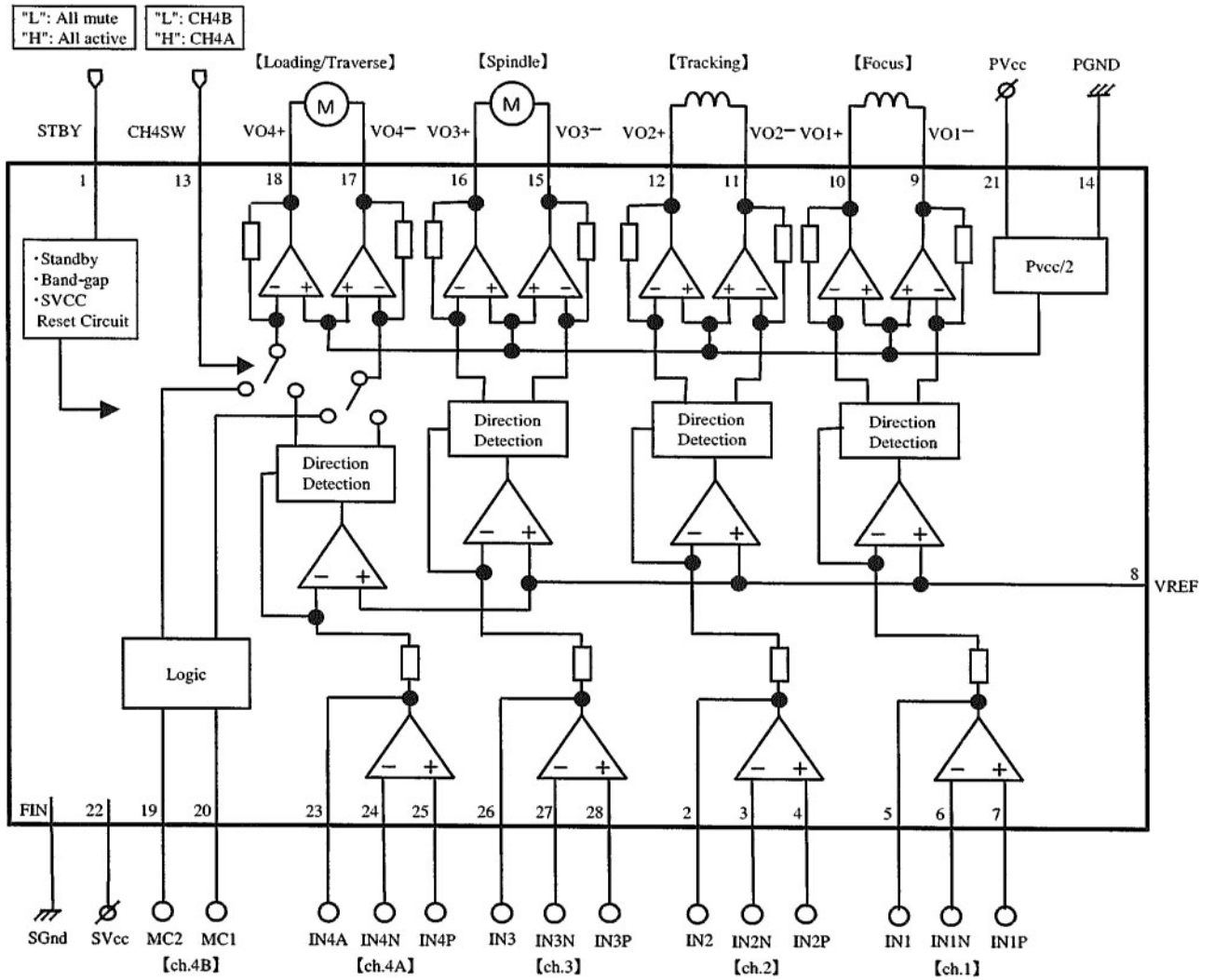
■ Package

- 28-pin plastic small outline package with heat slug (SOP type)

■ Type

- Silicon monolithic bipolar IC

■ Application Circuit Example



■ Pin Descriptions

Pin No.	Pin name	Type	Description
1	STBY	Input	Stand-by input
2	IN2	Input	Driver 2 input
3	IN2N	Input	Driver 2 negative input
4	IN2P	Input	Driver 2 positive input
5	IN1	Input	Driver 1 input
6	IN1N	Input	Driver 1 negative input
7	IN1P	Input	Driver 1 positive input
8	VREF	Input	VREF input
9	VO1-	Output	Driver 1 negative output
10	VO1+	Output	Driver 1 positive output
11	VO2-	Output	Driver 2 negative output
12	VO2+	Output	Driver 2 positive output
13	CH4SW	Input	CH4 input select
14	PGND	Ground	Ground for driver
15	VO3-	Output	Driver 3 negative output
16	VO3+	Output	Driver 3 positive output
17	VO4-	Output	Driver 4 negative output
18	VO4+	Output	Driver 4 positive output
19	MC2	Input	MC2 input
20	MC1	Input	MC1 input
21	PV _{CC}	Power supply	Power supply for diver
22	SV _{CC}	Power supply	Power supply
23	IN4A	Input	Driver 4 input
24	IN4N	Input	Driver 4 negative input
25	IN4P	Input	Driver 4 positive input
26	IN3	Input	Driver 3 input
27	IN3N	Input	Driver 3 negative input
28	IN3P	Input	Driver 3 positive input
FIN	SGND	Ground	Ground

■ Absolute Maximum Ratings

A No.	Parameter	Symbol	Rating	Unit	Notes
1	Supply voltage	SV_{CC} PV_{CC}	14	V	*1
2	Supply voltage	ISV_{CC} IPV_{CC}	0.2 1.2	A	*2
3	Power dissipation	P_D	582	mW	*3
4	Operating ambient temperature	T_{opr}	-40 to +85	°C	*4
5	Storage temperature	T_{stg}	-55 to +150	°C	*4
6	Supply voltage application range	V_{CC}	-0.3 to +14.0	V	—
7	Driver output current	$I_{O(n)}$	±1.0	A	*5
8	Control signal input voltage	V_n	0 to SV_{CC}	V	*6

Notes) *1 : The values under the condition not exceeding the above absolute maximum ratings and the power dissipation.

*2 : Make sure that all channels operate within 1 A current flow.

*3 : The power dissipation shown is the value at $T_a = 85^\circ\text{C}$ for the independent (unmounted) IC package with out a heat sink.

When using this IC, refer to the P_D - T_a diagram of the package standard page 4 and use under the condition not exceeding the allowable value.

*4 : Except for the power dissipation, operating ambient temperature, and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$.

*5 : At $I_{O(n)}$, "n" is Pin No., n = 9, 10, 11, 12, 15, 16, 17, 18.

Do not apply current or voltage from external sources to any pin not listed above. For the current denotation, (+) means current flowing into IC (-) means current flowing out from IC.

*5 : At $I_{O(n)}$, "n" is Pin No., n = 1, 2, 3, 4, 5, 6, 7, 8, 13, 19, 20, 23, 24, 25, 26, 27, 28.

Do not apply current or voltage from external sources to any pin not listed above. For the current denotation, (+) means current flowing into IC (-) means current flowing out from IC.

■ Operating supply voltage range

Parameter	Symbol	Rangs	Unit	Notes
Supply voltage range	SV_{CC} PV_{CC}	4.5 to 13.5	V	*

Note) * : Operate on the condition $PV_{CC} \leq SV_{CC}$

The values under the condition not exceeding the above absolute maximum ratings and the power dissipation.

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