

AN8780SB (Under development)

4Ch. Linear Driver IC for CD/CD-ROM

Overview

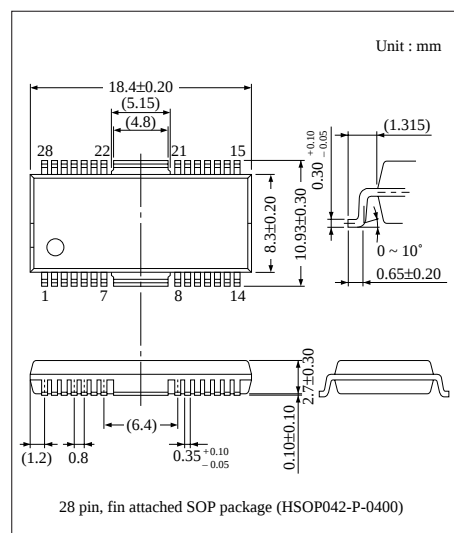
The AN8780SB employs 4ch. H-bridge system that is suitable for driver or actuator of CD player. Also it employs the surface mounting type package superior in radiation characteristics.

Features

- Wide output D-range is available regardless of reference voltage on the system
- 4 ch. BTL Driver built-in. Particularly suitable for driver of actuator or motor of 5 to 20Ω load.
- 2 ch. independently controllable PC (Power Cut) feature, and 4 ch. simultaneously controllable PC feature built-in.
- Thermal shut down circuit (with hysteresis) built-in.
- Control for proper heat of IC by separating the power supplies for signal line and output line.
- Provided with reset output pin.
- Shot brake mode.

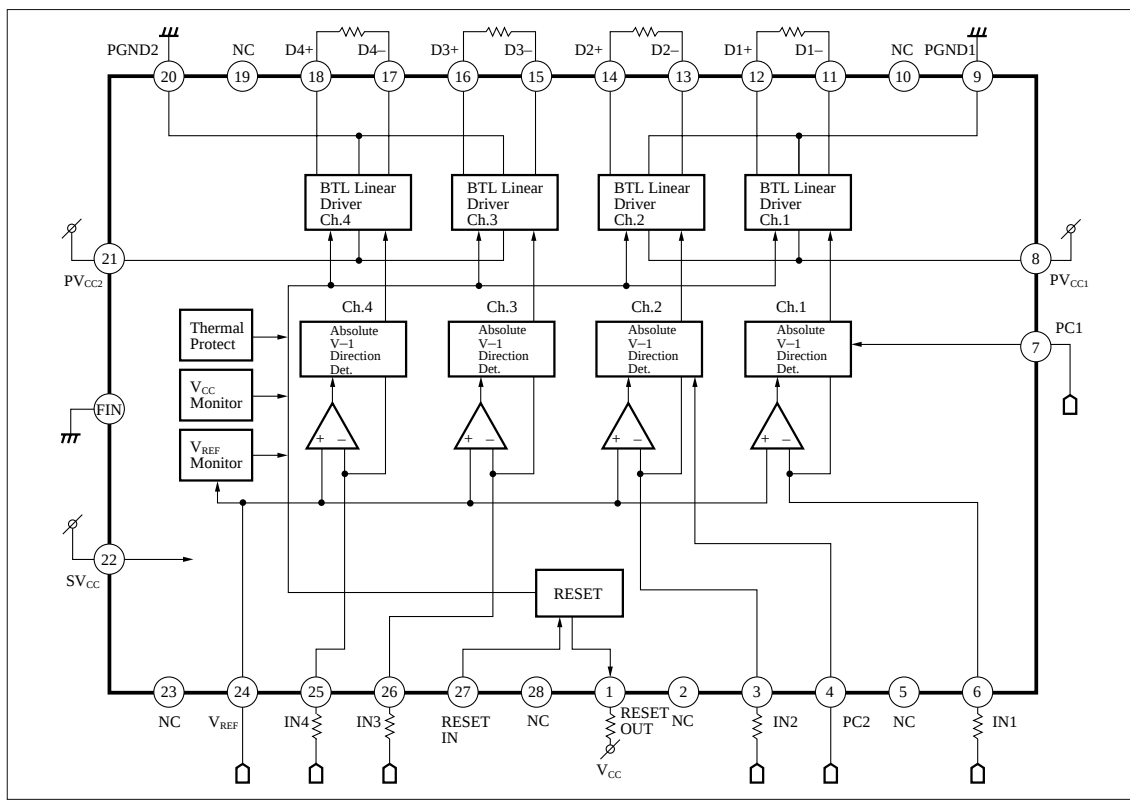
Application

CD player, CD-ROM, for drive of motor



The AN8780SB is under development, so these described contents may be revised without prior notice.

Block Diagram



■ Pin Description

Pin No.	Pin Name	Pin No.	Pin Name
1	Reset output pin	16	Normal rotation output pin of motor driver 3
2	NC	17	Reverse rotation output pin of motor driver 4
3	Input pin of motor driver 2	18	Normal rotation output pin of motor driver 4
4	PC 2 (Power Cut) input pin	19	————
5	NC	20	GND 2 for driver
6	Input pin for motor driver 1	21	V _{CC} 2 for driver
7	PC (Power Cut) 1 input pin	22	Supply pin
8	V _{CC} 1 for driver	23	NC
9	GND 1 for driver	24	V _{REF} input pin
10	NC	25	Input pin of motor driver 4
11	Reverse rotation output pin of motor driver 1	26	Input pin of motor driver 3
12	Normal rotation output pin of motor driver 1	27	Reset input pin
13	Reverse rotation output pin of motor driver 2	28	NC
14	Normal rotation output pin of motor driver 2	Fin	GND
15	Reverse rotation output pin of motor driver 3	—	————

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V _{CC}	20	V
Supply Current	I _{CC}	—	mA
Power Dissipation ^{Note)}	P _D	3140	mW
Output current	I _{out}	500	mA
Operating Ambient Temperature	T _{opr}	−30 ~ +85	°C
Storage Temperature	T _{stg}	−55 ~ +150	°C

Note) For surface mounting on 100 × 80 × 1.6 mm double face glass epoxy board.

■ Recommended Operating Range (Ta=25°C)

Parameter	Symbol	Range
Operating Supply Voltage Range	V _{CC}	4.5V ~ 14V
	PV _{CC}	

■ Electrical Characteristics (Ta=25°C±2°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Total Circuit Current	I_{tot}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$	10	20	30	mA

Drivers 1 to 4

Input Offset Voltage	V_{IOF}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	-10	—	10	mV
Output Offset Voltage	V_{OOF}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	-60	—	60	mV
Gain (+)	G_+	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	14	17	21	dB
(+) (-) Relative Gain	DG	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	-1.7	—	1.7	dB
Limit Voltage (+)	V_{L+}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	4.4	5.0	—	V
Limit Voltage (-)	V_{L-}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	—	-5.0	-4.4	V
Dead Zone Width	V_{DZ}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	-10	—	20	mV

PC Operation

Threshold H	V_{PCH}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	1.4	—	—	V
Threshold L	V_{PCL}	$PV_{CC1} = PV_{CC2} = SV_{CC} = 8V$ $R_L = 8\Omega$	—	—	0.5	V

Reset circuit

Reset Operation Release Supply Voltage	V_{RST}		—	—	4.5	V
Threshold Hysteresis Width	V_{HYS}		0.09	0.17	0.31	V
V_{REF} Detection	V_{R}		1.85	—	—	V

Heat Protection Circuit

Operation Temperature Equilibrium Value ^{Note 1)}	T_{THD}		(—)	(180)	(—)	°C
Operation Temperature Hysteresis Width ^{Note 1)}	DT_{THD}		(—)	(45)	(—)	°C

Note 1) Characteristic value in parentheses is a reference value for design but not a guaranteed value.

■ Characteristic Curve

