

Dual BTL Power Driver

AM2088AH/ATH

The AM2088AH/ATH is specially developed for the application of compact disc players and is capable of driving focus, tracking and sled functions and spindle motors.

● Applications

CD-audio, VCD, and DVD-player

● Features

- 1) No external component.
- 2) High output current.
- 3) Single power supply.
- 4) Low output offset voltage.
- 5) ESD protection on all pins.
- 6) DIP16 package for AM2088AH, SO16 package for AM2088ATH
- 7) Build-in thermal shutdown

● Absolute maximum ratings ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Limits	Unit
Supply voltage	V_P	16	V
Peak output current	I_{ORM}	* 0.5	A
Power dissipation	P_d	1.4 (A type) 1.1 (AT type)	W
Operate Temp range	T_{opr}	-40 ~ +85	$^{\circ}\text{C}$
Storage Temp range	T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

* For 1 channel output.

● Quick references ($T_a=25^{\circ}\text{C}$)

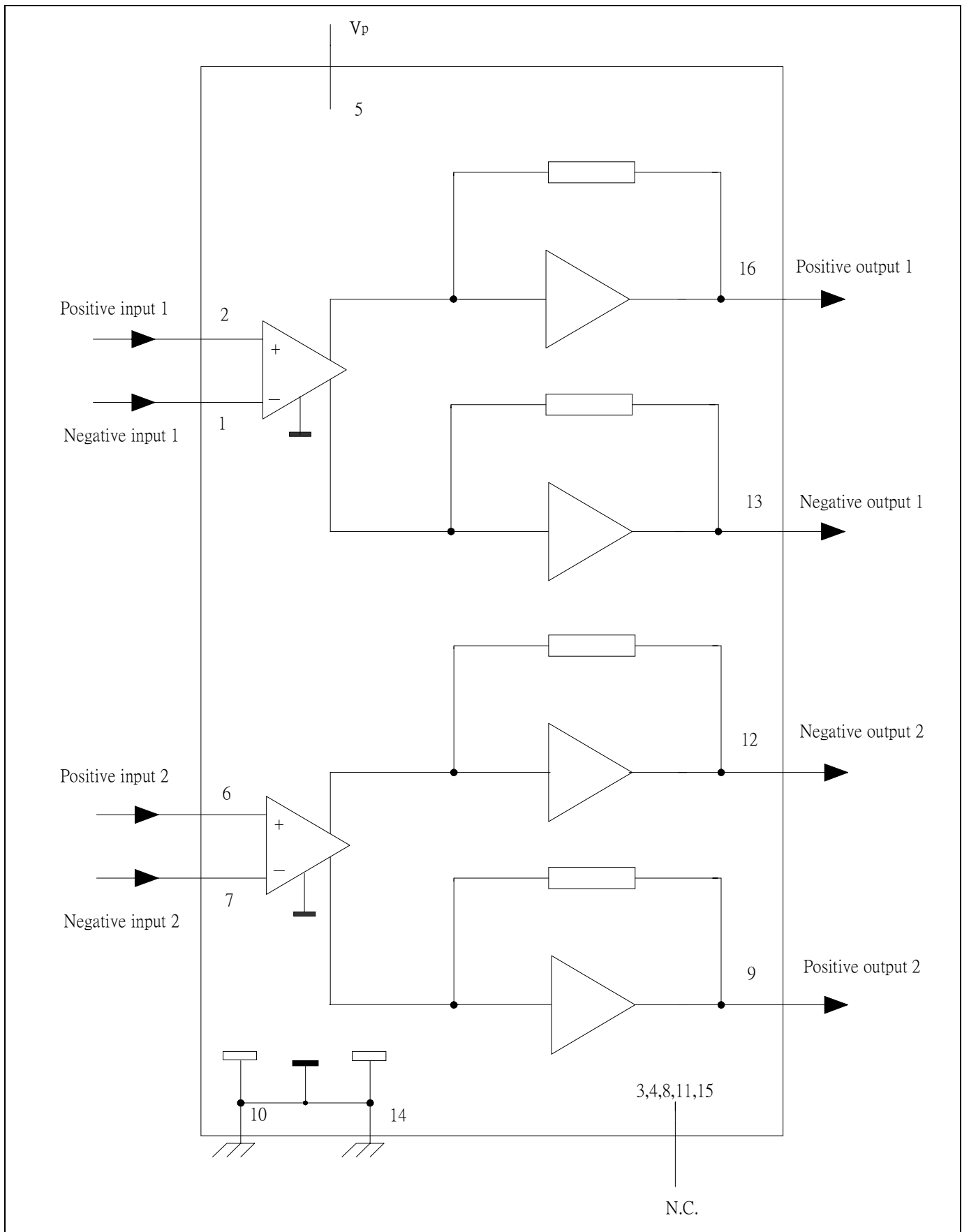
Parameter	Symbol	min	typ	max	Unit
Supply voltage	V_P	5		14	V
Internal voltage gain	G_V	12	13	14	dB
Quiescent current @ 9V V_P	I_{DDQ}			24	mA
Slew rate	S_R			1	V/us
Input current				300	nA

● Electrical characteristics (unless otherwise specified, $T_a=25^{\circ}\text{C}$, $V_p=9\text{V}$, $R_L=8\Omega$)

Parameter	Symbol	Conditions	Limit			Unit
			Min	Typ	Max	
Supply voltage	V_P		5		14	V
Output peak current	I_{PEAK}			500		mA
Repetitive output current	I_{ORM}	For each channel(*1)		320		mA
Total quiescent current	I_P	@ $V_P = 9\text{V}$			24	mA
Output voltage swing	V_{OPP}		6.5	7.5		V
Voltage gain	G_V		12	13	14	dB
Input bias current	I_{bias}			100	300	nA
Bandwidth	B_W			-	100	KHz
Power supply rejection ratio	$PSRR$	@ $V_P = 5\text{V}$	38		-	dB
Common mode rejection ratio	$CMRR$			100		dB
Common mode input range	$V_{I(COM)}$		0	-	$V_P-3.2$	V
Channel separation	α			50		dB
Input impedance	Z_I			100		$\text{K}\Omega$
Channel unbalance	$ \Delta G_V $				1	dB
Slew rate	S_R				1	V/us

*1. However, due to the power dissipation issue, it is not allowed for both channels to operate at this condition at the same moment.

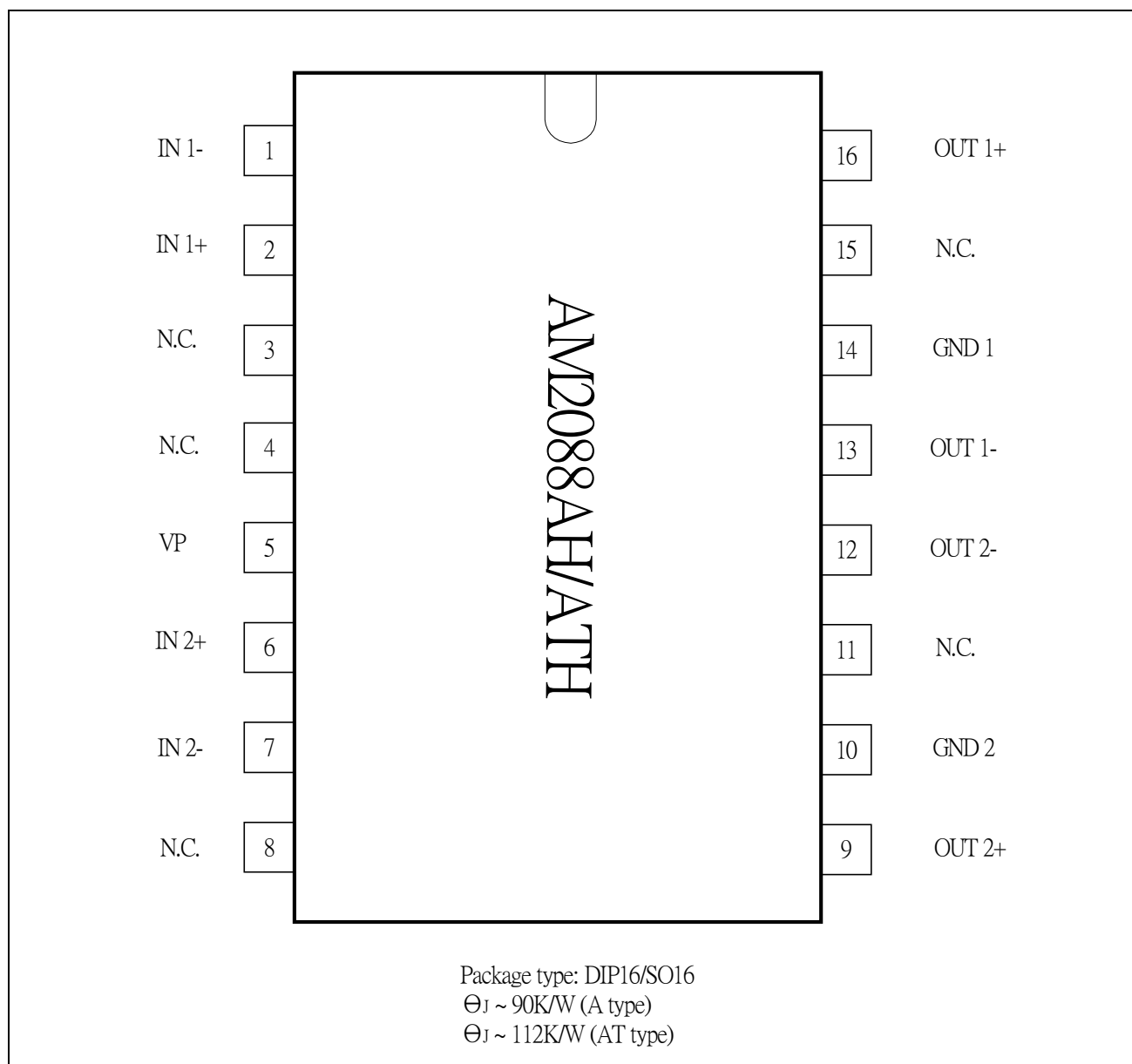
● **Block Diagram**



● Pin description

PIN No	Pin Name	Function
1	IN1-	Negative input 1
2	IN1+	Positive input 1
3	N.C.	Not connected
4	N.C.	Not connected
5	VP	Supply voltage
6	IN2+	Positive input 2
7	IN2-	Negative input 2
8	N.C.	Not connected
9	OUT2+	Positive output 2
10	GND2	Ground 2
11	N.C.	Not connected
12	OUT2-	Negative output 2
13	OUT1-	Negative output 1
14	GND1	Ground 1
15	N.C.	Not connected
16	OUT1+	Positive output 1

● Pin Assignment



● Functional description

The AM2088AH/ATH is dual power driver circuits in a BTL configuration, intended for use as a power driver for servo systems with a single supply. It is particularly designed for **compact disc players** and is capable of driving focus, tracking, sled functions and spindle motors.

Because of the BTL configuration, the device can supply bi-directional DC current in the load, with only a single supply voltage. The voltage gain is fixed by internal feedback at 13 dB and the device operate in a supply voltage ranges 5 ~14V. The differential input can handle common mode input voltage from ground level up to VP-3.2V.

● Application information

