# Reversible motor driver

## BA6208/BA6208F

The BA6208 and BA6208F are monolithic ICs used for driving reversible motors. They allow control of reversible motors in cassette players and other electrical equipment by using TTL-level logic signals.
The ICs contain a logic section, which controls forward and reverse rotations as well as forced stop, and an output power section, which can supply an output current of up to 100mA (typical) according to the logic control.

●Features

1) Motor driving power transistors are built in (100mA typically).
2) Brake is applied when stopping the motor (when inputs A and B are both HIGH level).
3) Built-in diode to absorb surge currents.
4) Very low standby circuit current when inputs A and B are both LOW level.
5) Wide range of operating supply voltage (4.5 ~ 15.0V).
6) Direct control with the TTL logic.

●Absolute maximum ratings (Ta=25℃)

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| Power supply voltage | | Vcc | 18 | V |
| Power dissipation | BA6208 | Pd | 700*1 | mW |
| | BA6208F | Pd | 450*2 | |
| Operating temperature | | Topr | −20~60 | ℃ |
| Storage temperature | | Tstg | −55~125 | ℃ |
| Maximum output current | | IOUT | 500 | mA |

*1 Reduce power by 7 mW for each degree above 25℃.
*2 Reduce power by 4.5 mW for each degree above 25℃.

●Recommended operating conditions (Ta=25℃)

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Power supply voltage | Vcc | 4.5 | — | 15 | V |

●Input/output truth table

| 3pin (Ain) | 2pin (Bin) | 8pin (Aout) | 7pin (Bout) |
|---|---|---|---|
| H | L | H | L |
| L | H | L | H |
| H | H | L | L |
| L | L | OPEN | OPEN |

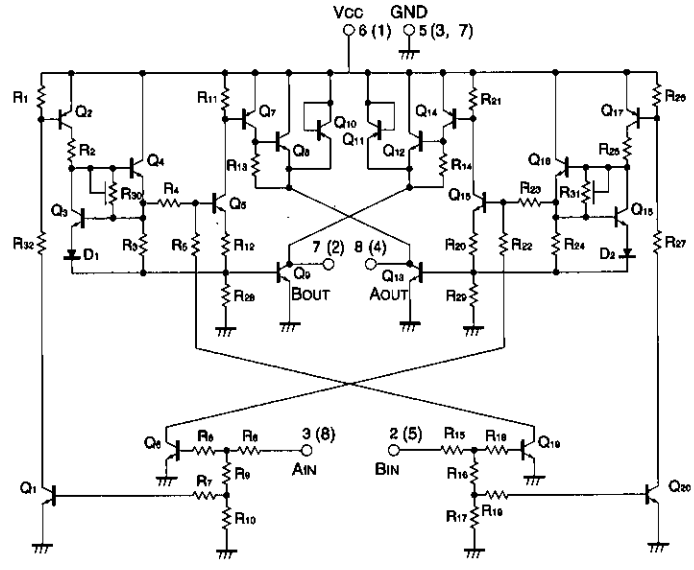
Note : HIGH level input is 2.0 V or more
LOW level input is 0.8 V or less

●Electrical characteristics (unless otherwise noted, Ta=25℃ and $V_{CC}$=9V)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Output current | Io | 200 | — | — | mA | |
| Output saturation voltage | $V_{CE}$ | — | — | 1.6 | V | Io=100mA |
| HIGH level input voltage | $V_{IH}$ | 2.0 | — | — | V | |
| LOW level input voltage | $V_{IL}$ | — | — | 0.8 | V | |
| Standby circuit current | $I_{ST}$ | — | — | 0.4 | mA | When inputs A and B are both LOW level |
| HIGH level input current | $I_{IH}$ | — | — | 400 | μA | $V_{IH}$=4.5V |

A diode that absorbs at least 500 mA is built in to give protection against surge currents with a pulse width of 10 ms and a duty ratio of 10% or less.

●Equivalent circuit diagram




Note : Figures in parentheses are for the BA6208F

Fig.1

●External dimensions (Units: mm)