



## Description

RZ7899 is a monolithic IC designed for driving bi-directional DC motor, It has two pins of logic inputs for controlling the direction, forward and backward. It has a 3A current drive capability, and a low output saturation pressure drop and quiescent current; built-in clamp diode to reverse the impact of the release of inductive load current, Making it in the drive relays, DC motors, stepper motors or control the use of switching power safe and reliable. RZ7899 motor drive for toy vehicles, remote-controlled aircraft motor drive, automatic valve motor, electromagnetic lock drive, precision instruments and other circuits.

## Features

- Low stand-by current.  $\leq 2\mu A$
- Wide supply voltage range: 3.0V~25.0V..
- Built-in Brake Function
- Thermal Shutdown protection
- Short Circuit Protect Function
- Over Current Limit Function
- SOP8 Pb-Free package.

## Pin Function

| Pin NO | Name | Function        |
|--------|------|-----------------|
| 1      | Bi   | Backward input  |
| 2      | Fi   | Power supply    |
| 3      | Gnd  | Ground          |
| 4      | Vcc  | Vcc             |
| 5, 6   | Fo   | Forward output  |
| 7, 8   | Bo   | Backward output |

## Input Truth Table

| 2pin Finput | 1pin Binput | 5,6pin Foutput | 7,8pin Boutput |
|-------------|-------------|----------------|----------------|
| H           | L           | H              | L              |
| L           | H           | L              | H              |
| H           | H           | L              | L              |
| L           | L           | Open           | Open           |

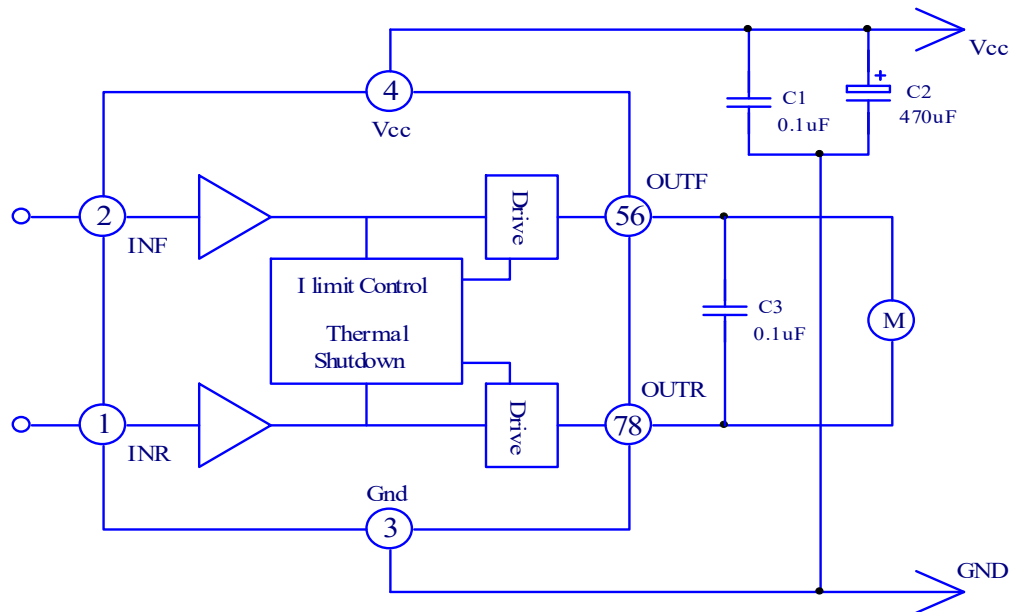
**Absolute Maximum Rating**

| Parameter              | Symbol                 | Rating   | Unit |
|------------------------|------------------------|----------|------|
| Maximum supply voltage | V <sub>CC(max)</sub>   | 28       | V    |
| Peak output current    | I <sub>out(peak)</sub> | 6        | A    |
| Operating Temperature  | T <sub>OP</sub>        | -25~+85  | °C   |
| Storage temperature    | T <sub>stg</sub>       | -55~+150 | °C   |

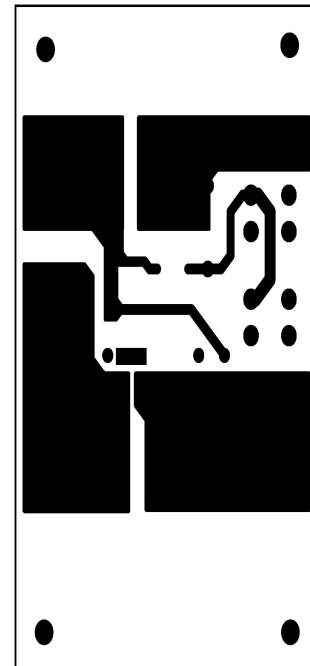
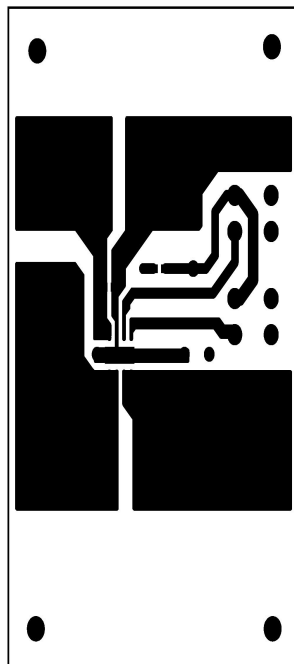
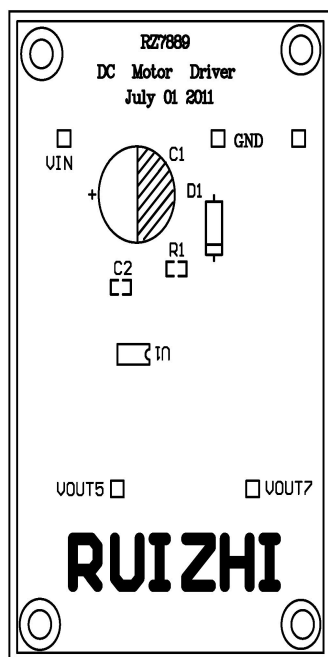
**Electrical Characteristics(V<sub>CC</sub>=6V,T<sub>a</sub>=25°C,unless otherwise specified)**

| Parameter                    | Symbol            | Condition                                                                             | Min  | Typ  | Max | Unit |
|------------------------------|-------------------|---------------------------------------------------------------------------------------|------|------|-----|------|
| Operating voltage            | V <sub>OPR</sub>  |                                                                                       | 3.0  | --   | 25  | V    |
| stand-by current             | I <sub>S</sub>    | V <sub>CC</sub> = 9V    V <sub>i</sub> = 0                                            |      |      | 2   | uA   |
| No-load operating current    | I <sub>CC</sub>   | V <sub>CC</sub> = 6V    V <sub>I</sub> = 3V                                           | 2    | 4    | 7   | mA   |
| High Output Voltage          | V <sub>HOUT</sub> | V <sub>CC</sub> = 6V    I <sub>O</sub> = 3A                                           | 5.5  | 5.7  | 5.9 | V    |
| Low Output Voltage           | V <sub>LOUT</sub> | V <sub>CC</sub> = 6V    I <sub>O</sub> = 3A                                           | 0.05 | 0.15 | 0.3 | V    |
| High input Voltage           | V <sub>iH</sub>   |                                                                                       | 2.2  | 3.0  | 6   | V    |
| Low input Voltage            | V <sub>iL</sub>   |                                                                                       |      | 0.5  | 0.7 | V    |
| Input current                | I <sub>i</sub>    | V <sub>CC</sub> = 6V    V <sub>i</sub> = 3V                                           |      | 100  | 150 | uA   |
| Continuous output current    | I <sub>out</sub>  | Around of the no.5, no.6, & no.7,no.8 pins needs copper to auxiliary heat dissipation |      | 3    | 5   | A    |
| Thermal shutdown temperature | T <sub>otp</sub>  |                                                                                       |      | 130  |     | °C   |

## Application circuit



## Test PCB Board



## Package Type SOP8

