

**Description**

TA6586 is a DC bi-directional motor driver suitable as a motor driver for toys, valve actuator motors, electromagnetic locks, etc. It has two logic inputs to control forward, reverse, and braking of the motor. This circuit features good anti-interference performance, very small standby current, low output resistance, and it also has built-in back-EMF clamp diodes to dissipate reverse current from inductive loads.

Features

- Low stand-by current, less than 2 μ A
- Wide supply voltage range 3.0V~14V
- Built-in brake function
- Thermal shutdown protection
- Over current limit and short circuit protect
- DIP8 package.

Pin Function

Pin	Name	Function
1	BI	Backward input
2	FI	Forward input
3	GND	Ground
4	Vcc	Vcc
5, 6	FO	Forward output
7, 8	BO	Backward output

Input Truth Table

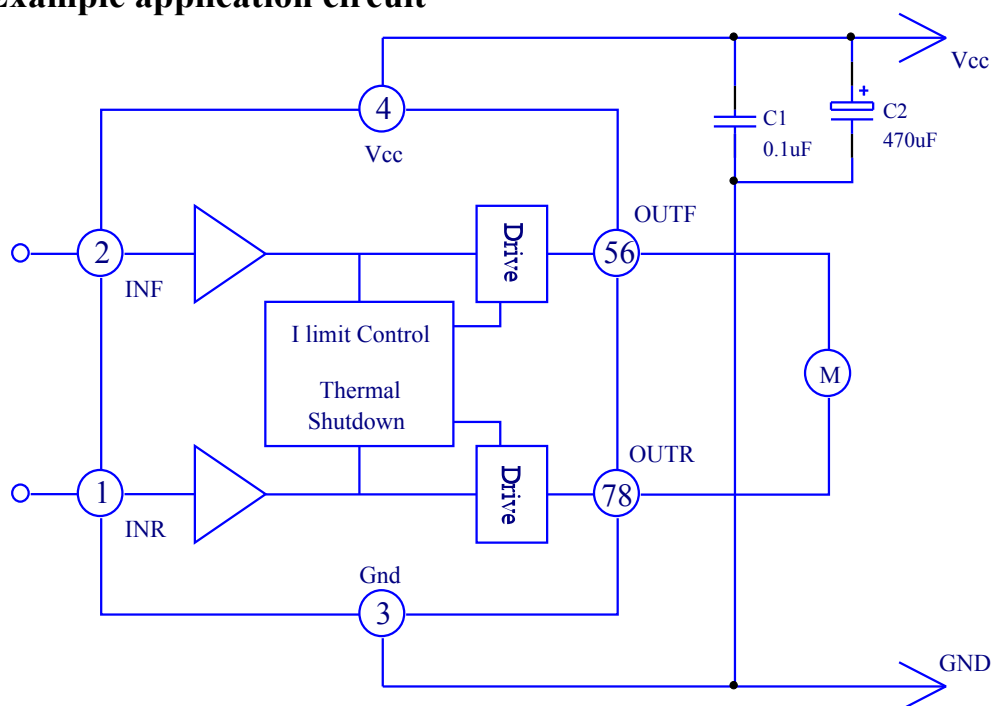
pin 2 - Fwd input	pin 1- Bwd input	pins 5,6 - Fwd output	pins 7,8 - Bwd output
H	L	H	L
L	H	L	H
H	H	L	L
L	L	Open	Open

Absolute Maximum Rating

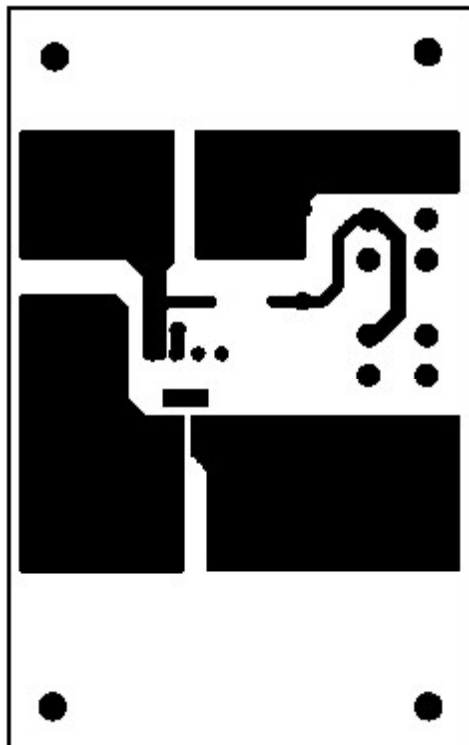
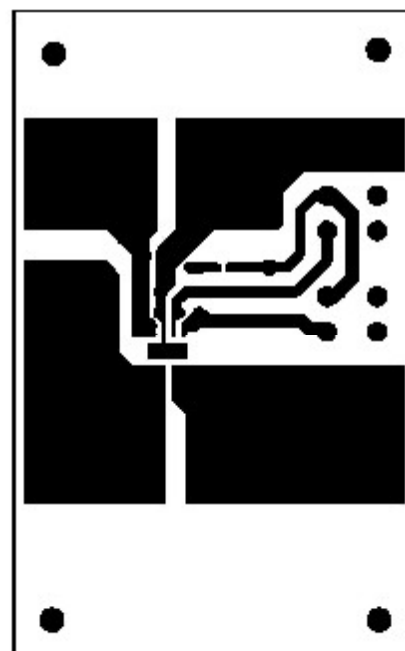
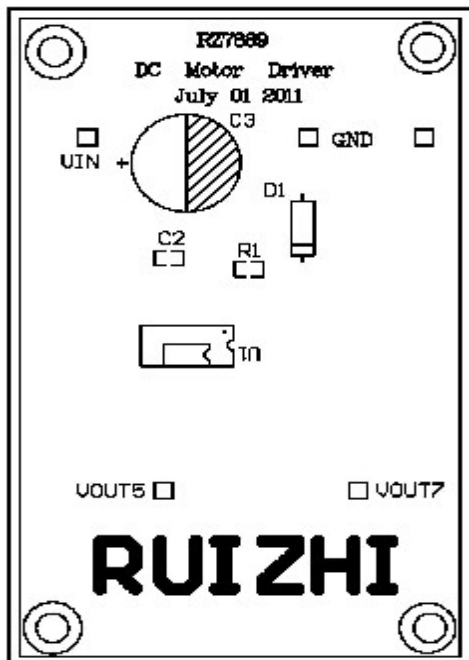
Parameter	Symbol	Rating	Unit
Maximum supply voltage	Vcc	15	V
Output current	Iout	9	A
Operating temperature	Top	-25~+85	°C
Storage temperature	Tstg	-55~+150	°C

**Electrical Characteristics** ($V_{CC}=6V, T_a=25^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Operating Voltage	V_{OPR}		3.0	--	14	V
Stand-by Current	I_s	$V_{CC} = 9V \quad V_i = 0$			2	μA
No-load Operating Current	I_{CC}	$V_{CC} = 6V \quad V_i = 3V$ Open load	2	4	7	mA
High Output Voltage	$V_{H_{OUT}}$	$V_{CC} = 6V \quad I_o = 3A$	5.5	5.7	5.9	V
Low Output Voltage	$V_{L_{OUT}}$	$V_{CC} = 6V \quad I_o = 3A$	0.05	0.12	0.3	V
High Input Voltage	V_{iH}		2.2	3.5	6	V
Low Input Voltage	V_{iL}			0.5	0.7	V
Input Current (2V)	I_i	$V_{CC} = 6V \quad V_i = 2V$		70	100	μA
Input Current (3V)	I_i	$V_{CC} = 6V \quad V_i = 3V$		100	150	μA
Continuous Output current	I_{out}	Need extra copper pads around pins 5,6,7,8 to dissipate heat		5	7	A
Thermal shutdown temperature	T_{otp}			130		$^{\circ}C$

Example application circuit

Example application PCB Board



Package Type DIP8

