



**Prolific**  
PROLIFIC TECHNOLOGY INC.

DC Brushless Motor Driver IC

# PT-301E

## PWM Speed Controller

### Overview

The PT301E is a universal DC brushless motor driver IC. PT301E is design for varies motor applications. PT301E driver IC can use for signal coil DC and traditional double coil DC brushless motor. This driver IC accepts the hall IC input and drives the motor coil directly without any other describe transistor. Driver IC can drive the DC brushless motor to start operation at the lowest voltage of 1.5V, but this IC can operate for a wide voltage range from 2.0V up to 6.5V. PT301E driver IC can support large current up to 400mA

### Applications

- Single coils DC brushless motor.
- Traditional double coil DC Brushless motor
- DC 1.5V~6.5V.
- FG(Divide 2)/ Eight Pole fan

### Features

- PWM speed control
- Motor lock protection
- Built-in protection circuit for transient output
- Frequency Generation output (Divide 2)
- Low power dissipation and high driving efficiency
- Ultra-low start voltage

### Input Devices

- Hall IC

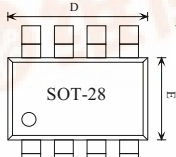
### Specifications

#### Absolute Maximum Ratings (Ta = 25°C)

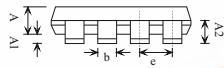
Parameter	Symbol	Conditions	Ratings	Units
Maximum supply voltage	V <sub>DD</sub> <sup>max</sup>		6.5	V
Allowable power dissipation	P <sub>d</sub>		350*	mW
Operating temperature	T <sub>a</sub>		-30 ~ +125	°C
Storage temperature	T <sub>s</sub>		-55 ~ +150	°C
Output Continuous current	I <sub>out</sub>	Max.	400	mA
Output Peak current	I <sub>out</sub>	T ≤ 20us	600	mA

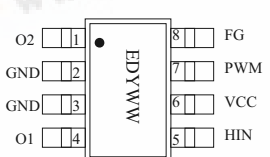
\* On 50mm x 50mm x 1.6mm glass epoxy board

### Package: SOT-28



SOT-28





O2 | 1 | FG  
GND | 2 | PWM  
GND | 3 | VCC  
O1 | 4 | HIN

E:PT-301E    Y: Year  
D:Divide 2    WW: Week

Unit: mm

SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A2	0.70	0.80	0.90
A1	0.00	-	0.15
A	1.00	1.10	1.30
b	0.25	0.30	0.40
C	0.10	0.15	0.20
D	2.80	2.90	3.00
E	1.60	1.80	2.00
HE	2.60	2.80	3.00
e	-	0.65	-
L	0.10	-	0.60

Pin Description			
Name	Pin	Description	Type
V <sub>CC</sub>	6	DC power supply	P
Gnd	2/3	DC ground	G
O1	4	First output pin	O
O2	1	Second output pin	O
Hin	5	Hall IC signal input	I
PWM	7	PWM control input	I
FG	8	Tacho meter output(Frequency Generation)	O

Pin Description  
P: Power, G: Ground, O: Output, I: Input

