

DESCRIPTION

The PT2505 is a three-phase, hall sensor sinusoidal brushless DC motor control chip with different protection mechanism. The three-phase control is based on sine wave driving scheme and it is designed to reduce electrical audible noise in motor phase commutation. On-chip +5V LDO provide voltage for logic and analog circuits operation. Combined with an external high voltage gate driver and six n-channel MOSFETs, PT2505 can operate with high voltage motor. The PT2505 offers OTP parameters setting to optimize with different motors and applications. PT2505 with package in SSOP24 and SSOP28. For SSOP24 package, its pin assignment is compatible to ROHM BD62011FS.

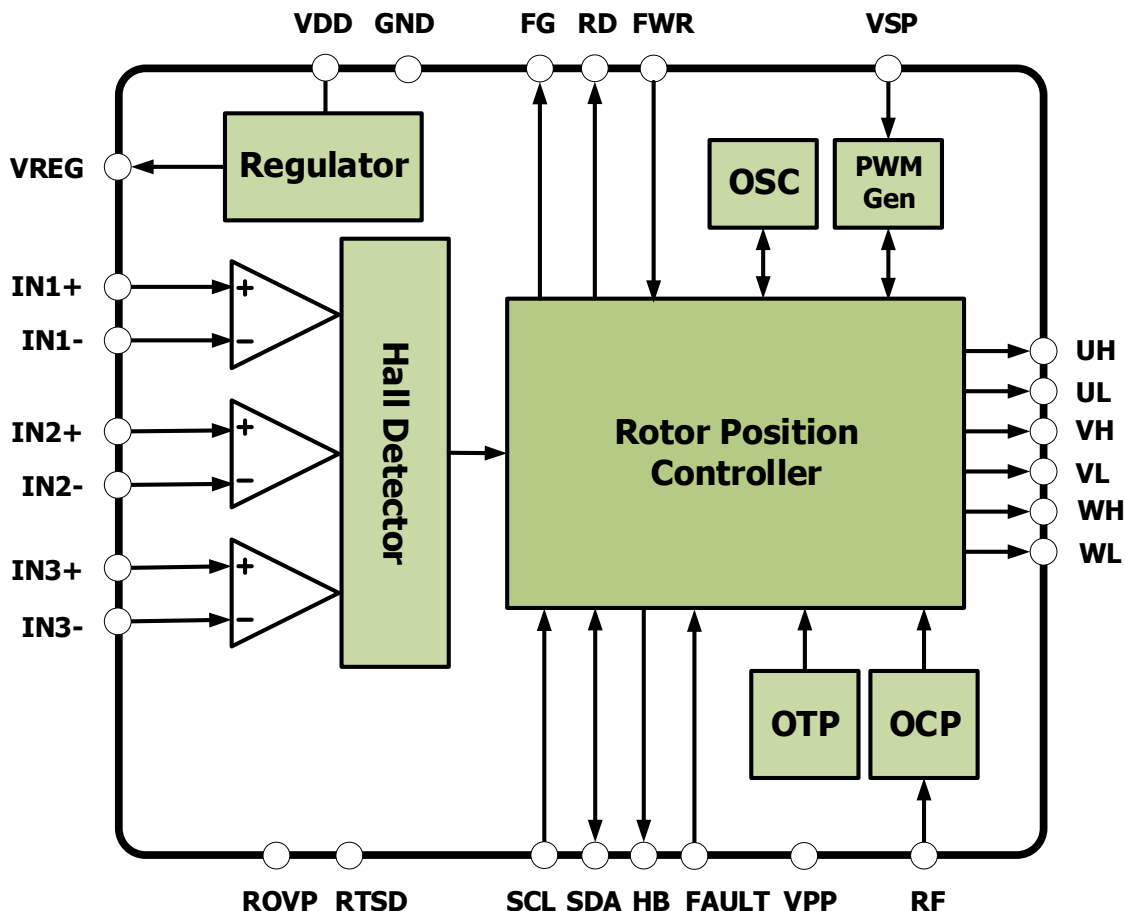
FEATURES

- Hall sensor sinusoidal control for 3-phase BLDC
- Over Current Protection(OCP)
- Thermal ShutDown protection(TSD)
- Under Voltage Lock-Out protection(UVLO)
- Over Voltage Lock-Out protection(OVLO)
- Motor lock protection and fault input protection
- Reverse function.
- DC, PWM, I²C or frequency input for speed control
- FG output for rotation speed
- +5V logic output to drive external gate driver.
- Support Hall element and Hall sensor
- I²C interface for parameter setting and write to internal OTP.

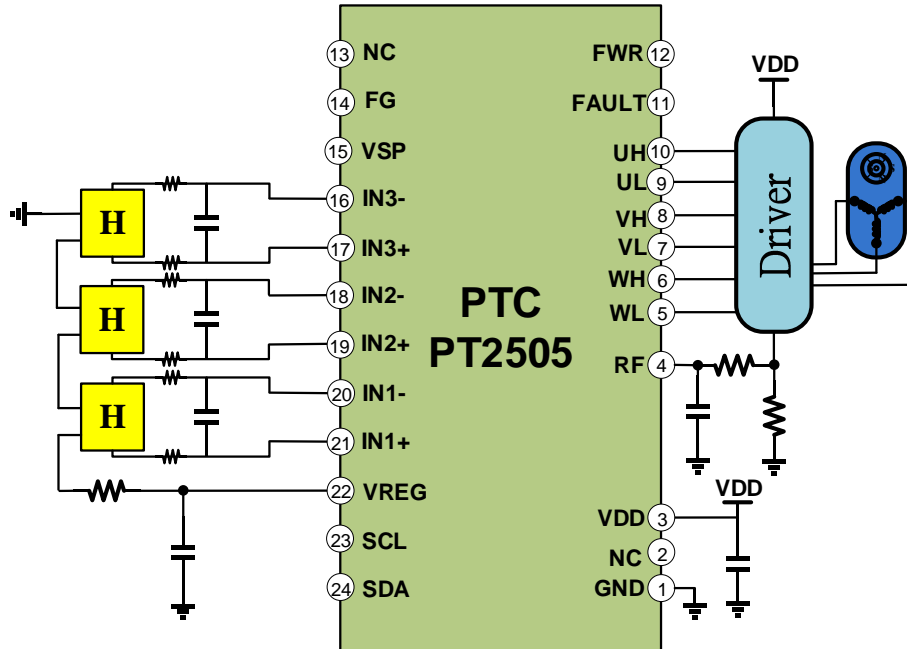
APPLICATIONS

- Three-phase BLDC motor
- Fan application

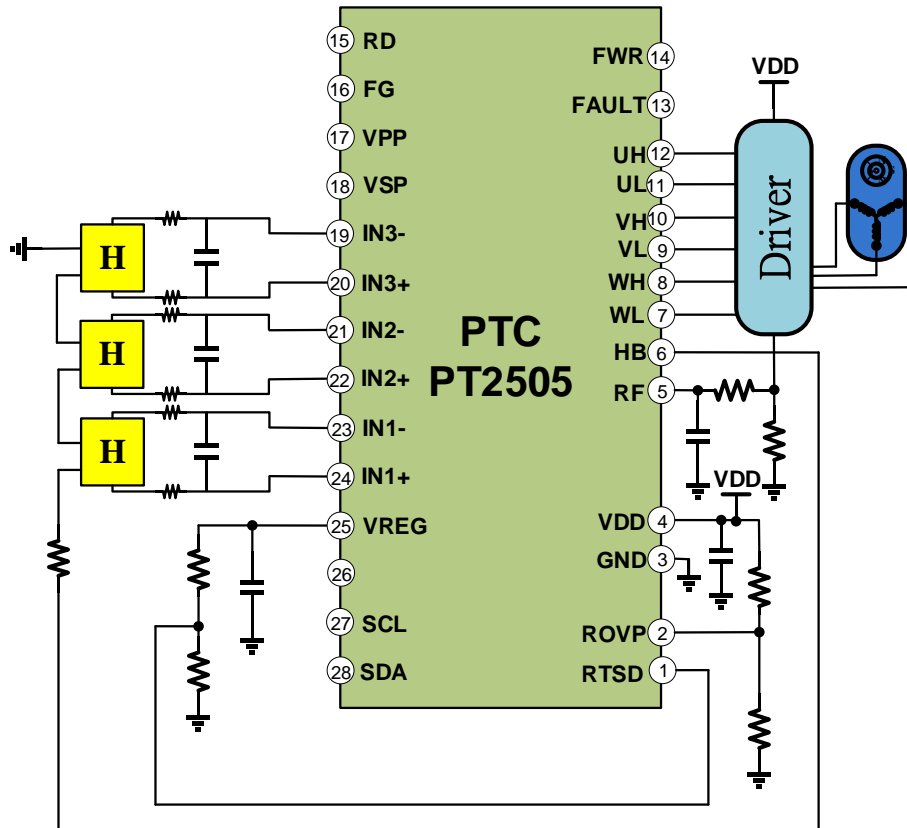
BLOCK DIAGRAM



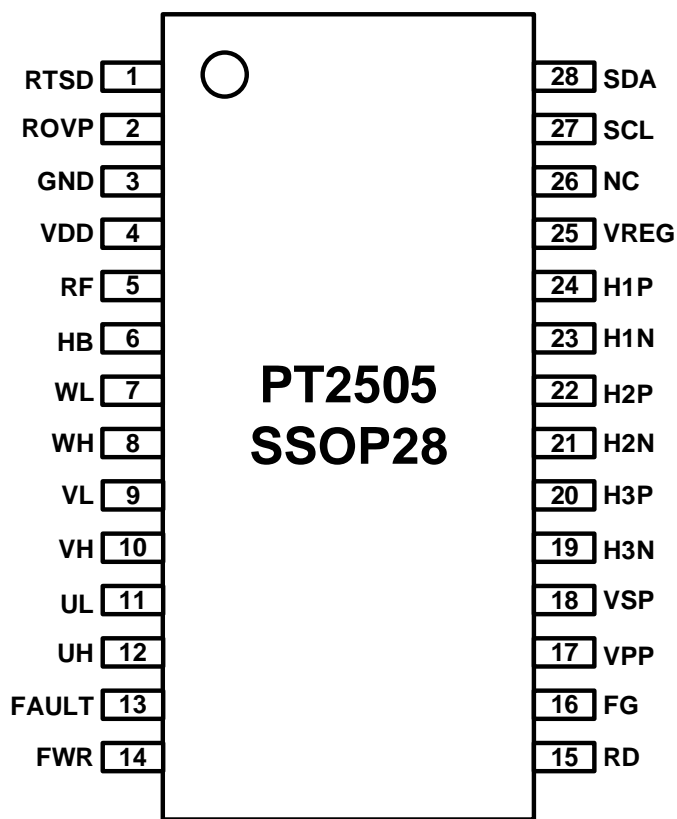
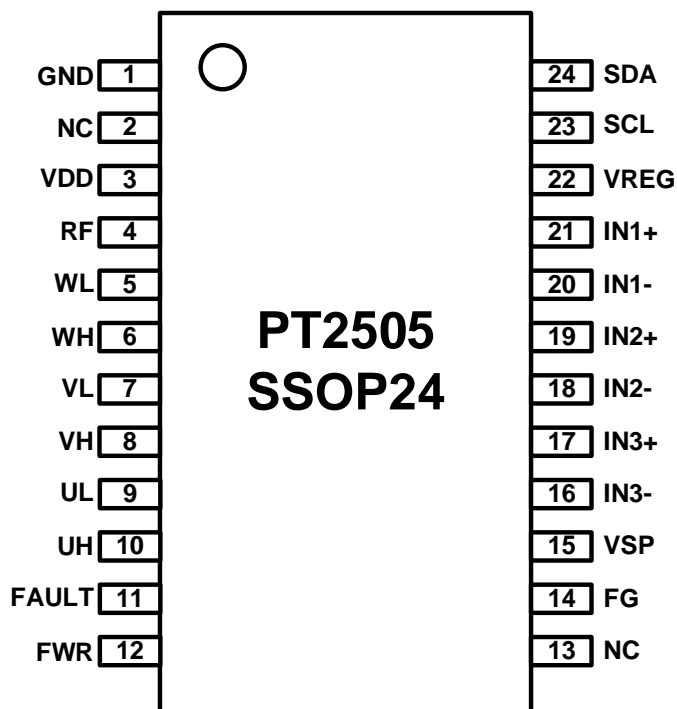
APPLICATION BLOCK DIAGRAM – SSOP24



APPLICATION BLOCK DIAGRAM – SSOP28



PIN ASSIGNMENT



PIN DESCRIPTION

Pin Name	I/O/P	Description	Pin No.	
			24 Pin	28 Pin
GND	P	Signal ground	1	3
VDD	P	Power supply input	3	4
RF	I	Current limit voltage sensing	4	5
HB	O	Controlled +5V output for Hall sensor bias	NC	6
WL	O	W phase low side signal output	5	7
WH	O	W phase high side signal output	6	8
VL	O	V phase low side signal output	7	9
VH	O	V phase high side signal output	8	10
UL	O	U phase low side signal output	9	11
UH	O	U phase high side signal output	10	12
FAULT	I	External fault input (Low active)	11	13
FWR	I	Forward/Reverse Control(internal pull-high as Reverse)	12	14
RD	O	Motor lock indicator, HIGH for abnormal event.	NC	15
FG	O	Motor rotation speed indicator, logic level output	14	16
VPP	O	+7.5v for OTP programming. It is provided internally or externally.	NC	17
VSP	I	DC or PWM input for speed control	15	18
IN3-	I	Hall element 3 input-	16	19
IN3+	I	Hall element 3 input+ or Hall sensor input	17	20
IN2-	I	Hall element 2 input-	18	21
IN2+	I	Hall element 2 input+ or Hall sensor input	19	22
IN1-	I	Hall element 1 input-	20	23
IN1+	I	Hall element 1 input+ or Hall sensor input	21	24
VREG	O	+5V LDO output	22	25
SCL	I	Serial clock input - I ² C control interface	23	27
SDA	I/O	Serial data input/output – I ² C control interface	24	28
RTSD	I	Thermal shutdown sensing resistor connection	DB	1
ROVP	I	Over-Voltage sensing resistor connection	DB	2

IMPORTANT NOTICE

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