

DESCRIPTION

PT2511 is a BLDC driver IC with integrated MOSFET. It is a sine wave current control based on Hall sensors. The drive IC can provide a continuous drive current of about 1.5A and suitable for motor drive within 30W. An additional drive circuit can drive 12V~24V swing head motor. The configuration can be used for vertical fans, circulating fans, etc.

PT2511 can adjust the needed of motor operation parameters, such as the advance angle compensation, acceleration/deceleration or stall protection, etc. The parameters can be controlled through I2C or stored in the memory of the chip.

There are three packages of PT2511. QFN40 or HTSSOP28 packages can be used when the power is low or the chip temperature rise is not high. The HSOP28 package provides better heat dissipation due to its larger size and is suitable for higher power.

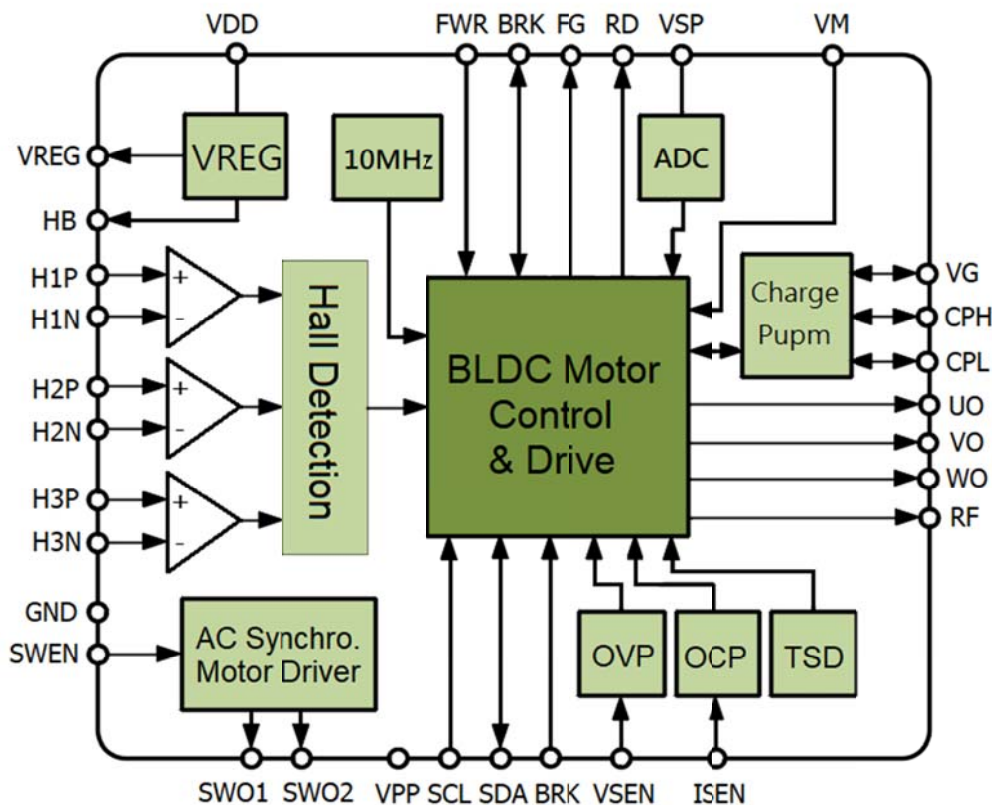
FEATURES

- Hall sensor sinusoidal control for 3 phase BLDC
- Operating voltages range from 9V to 24V.
- Drive current: 1.5 A continuous
- Over current protection (OCP)
- Thermal shutdown protection (TSD)
- Over voltage protection (OVP)
- Under Voltage Lock-Out protection (UVLO)
- Motor lock protection (Lock)
- External brake function (Brake)
- DC, PWM, I2C or Clock input for speed control
- Forward/Reverse control through FWR pin
- Various FG speed output settings
- Support Hall components and Hall IC
- I2C parameter setting or writing to internal OTP memory

APPLICATIONS

- Three-phase BLDC motor
- Fan application

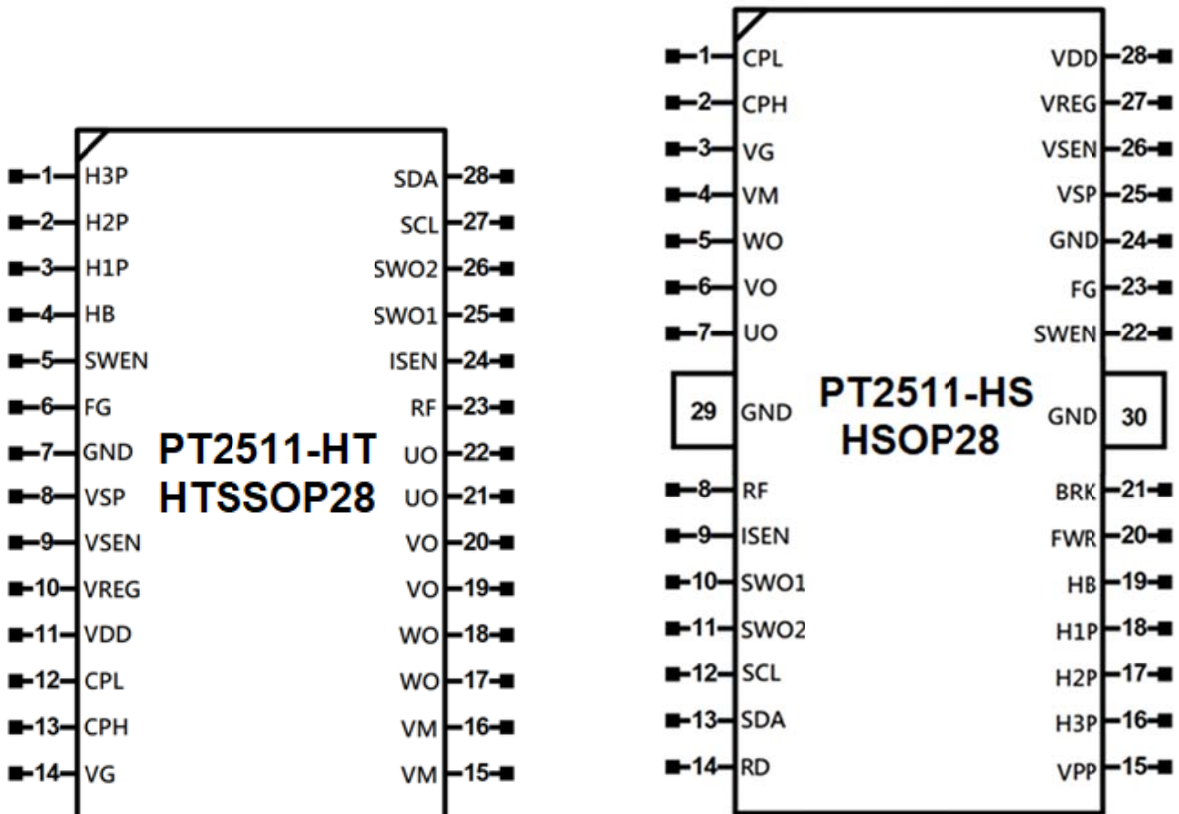
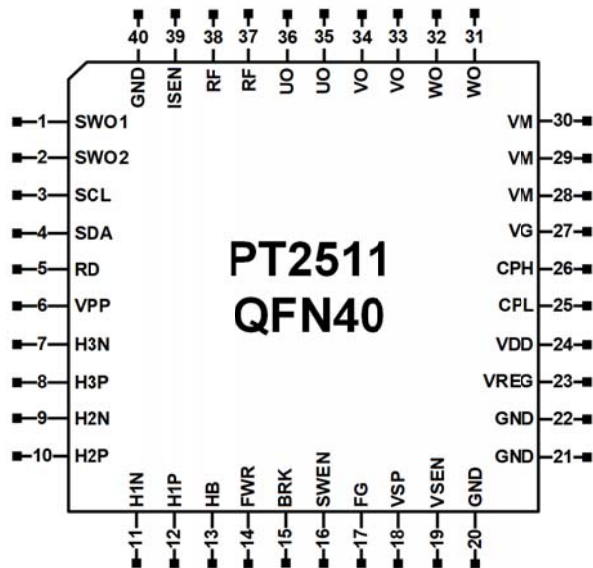
BLOCK DIAGRAM



ORDER INFORMATION

Part Number	Package	Top Logo
PT2511	40-PIN, QFN	PT2511
PT2511-HT	28-PIN, HTSSOP	PT2511-HT
PT2511-HS	28-PIN, HSOP	PT2511-HS

PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	I/O/P	Description	QFN40	HTSSOP28	HSOP28
SWO1	I/O	Swing motor control output 1	1	25	10
SWO2	I/O	Swing motor control output 2	2	26	11
SCL	I	Serial clock input -I2C control interface	3	27	12
SDA	I/O	Serial data input/output -I2C control interface	4	28	13
RD	O	Lock/abnormal protection indication output. HIGH for abnormal event	5	-	14
VPP	P	OTP power supply, the voltage will be boosted to +7.5V during data recording. An external input voltage can be applied also.	6	-	15
H3N	I	Hall signal input 3 negative terminal	7	-	-
H3P	I	Hall signal input 3 positive terminal	8	1	16
H2N	I	Hall signal input 2 negative terminal	9	-	-
H2P	I	Hall signal input 2 positive terminal	10	2	17
H1N	I	Hall signal input 1 negative terminal	11	-	-
H1P	I	Hall signal input 1 positive terminal	12	3	18
HB	I	Provide external Hall IC power (5V)	13	4	19
FWR	I	Forward and reverse control input, the internal default high potential is forward	14	-	20
BRK	I	Brake control signal input, internal pull default high, stop braking when connected to low	15	-	21
SWEN	I	AC synchronous motor control input, external pull high to effective and pull low to stop	16	5	22
FG	O	Motor rotation speed indication, logic voltage signal output	17	6	23
GND	P	System ground	20,21 22,40	7	24
VSP	I	Speed control, DC(VSP) or PWM and Clock input	18	8	25
VSEN	I	Overvoltage or under voltage detection protection input	19	9	26
VREG	O	+5V regulated output	23	10	27
VDD	P	+5V regulator power input	24	11	28
CPL	I/O	Charge pump, capacitor between CPH and CPL	25	12	1
CPH	I/O	Charge pump, capacitor between CPH and CPL	26	13	2
VG	P	Charge pump voltage output, VM+5V	27	14	3
VM	P	Power input, provide internal MOSFET drive	28,29,30	15,16	4
WO	O	W phase output	31,32	17,18	5
VO	O	V phase output	33,34	19,20	6
UO	O	U phase output	35,36	21,22	7
RF	P	Lower side MOSFE source, connect an external resistor	37,38	23	8



		for current reference level			
ISEN	I	Current limit and overcurrent protection input	39	24	9
GND	P	Grounding. For heat dissipation	41	29	29
GND	P	Grounding. For heat dissipation	-	-	30