

DESCRIPTION

PT2432 is an integrated 3-phase sensorless brushless DC motor driver. Including soft start circuit, over temperature protection, lock on protection and current limit protection. PT2432 is very suitable for sensorless motor applications and ideal for fan motor control requiring high efficiency. The speed control interface (VSP) can support PWM and DC commands, allowing for smooth low-speed to high-speed motor control. The PT2432 requires only a few peripheral components and can achieve a compact PCB layout.

PT2432 utilizes a multi-power BCD process, only requires a single power supply, and uses HTSSOP16, HTSOP20 packages to achieve excellent power efficiency, making it a perfect solution for a highly integrated, low-cost, sensorless brushless DC motor system.

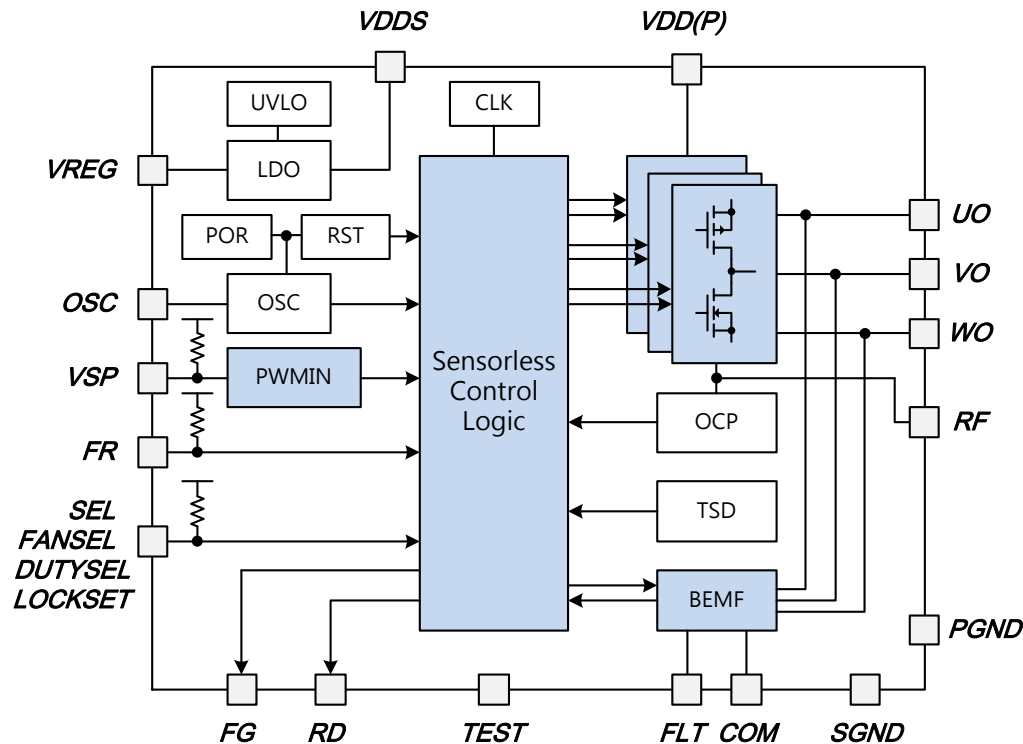
APPLICATIONS

- 3-phase sensor-less BLDC motor driver
- Fans for CPU, GPU, or server
- Pump

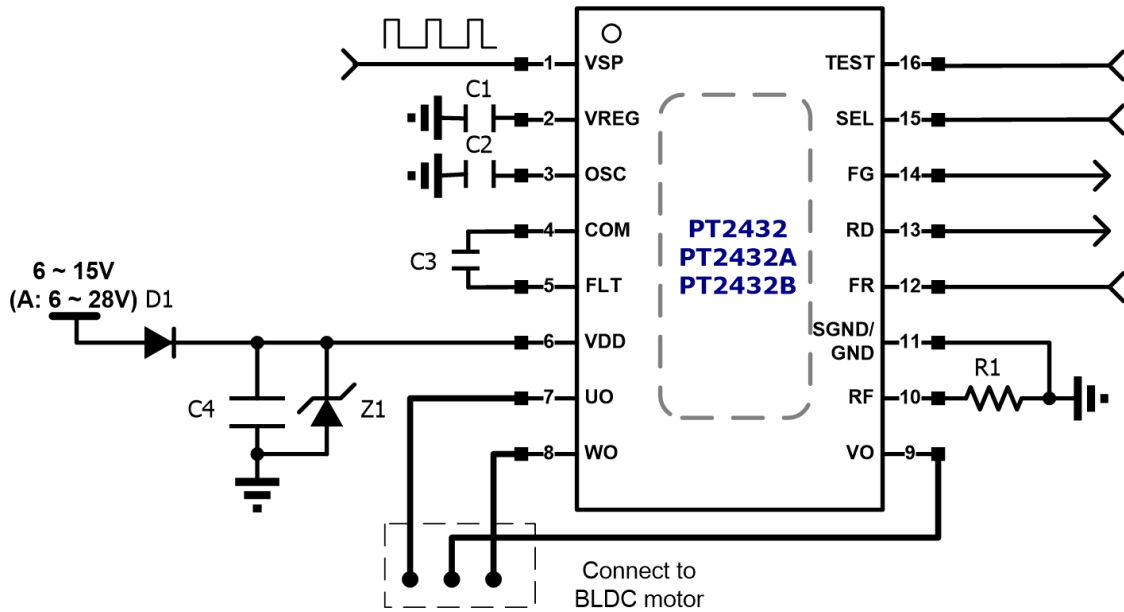
FEATURES

- 3-phase sensorless control
- 150° trapezoidal wave or 120° square wave drive control
- 12V or 24V interval voltage operation
- Support PWM or DC motor speed control commands
- FR forward and reverse input
- FG/RD output
- Rated maximum output current of 1.5A
- Soft-start control function
- Lock on protect function
- Thermal protection function with 30°C hysteresis window
- Supports both PWM or DC command for motor speed control
- Over-current limit set by an external precision resistor
- Built-in fast startup function (option)

BLOCK DIAGRAM



APPLICATION CIRCUIT FOR HTSSOP16

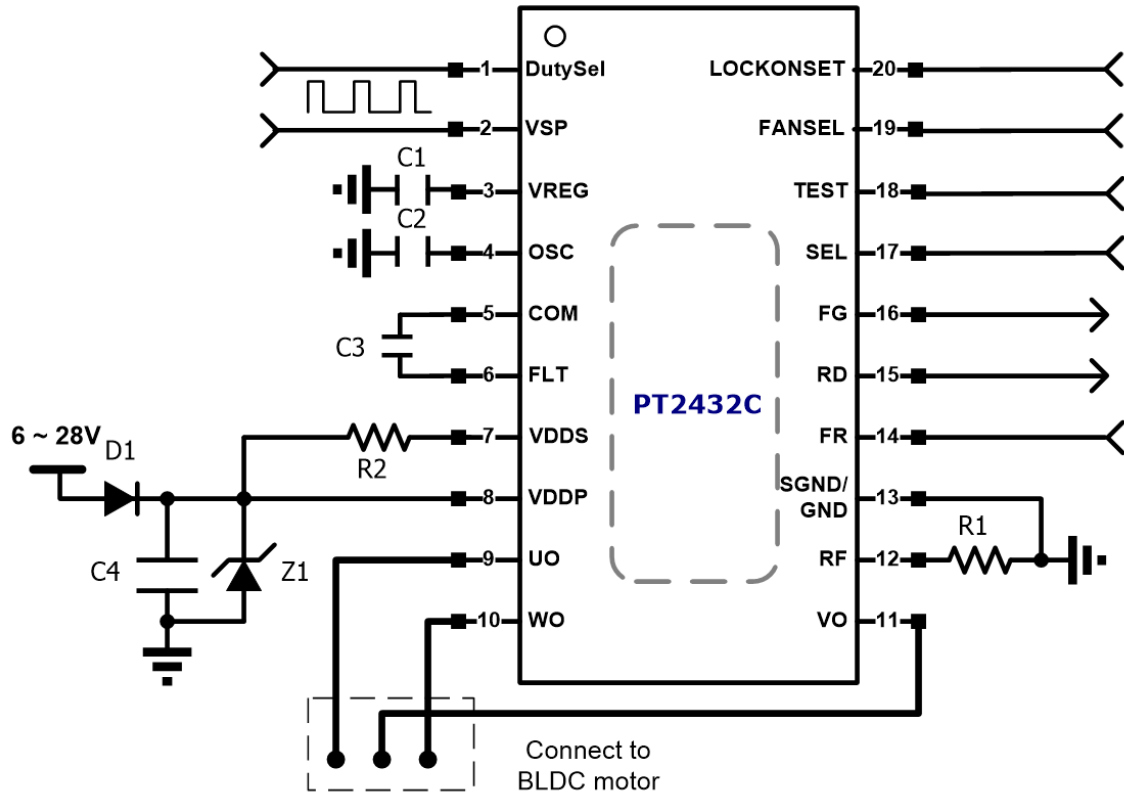


BOM FOR APPLICATION CIRCUIT

Part	Value	Unit	Description
C1	1u	F	Regulator stability capacitor
*C2	1n	F	Oscillator start-up capacitor, 100pF - 3.9nF
*C3	1n	F	ZC signal low pass filter capacitor, 100pF - 10nF
C4	10u	F	Power supply de-coupling capacitor
*R1	0.15	Ω	Reference voltage current limit resistor
D1	1N5819	V	Prevent BEMF feedback to power supply
Z1	15 (A: 28)	V	Large voltage spike Zener protection diode
U1	PT2432	IC	3-phase sensor-less driver IC

Notes : 1. C2 & C3 are depend on motor type.
2. R1 is depend on motor application.

APPLICATION CIRCUIT FOR HTSSOP20



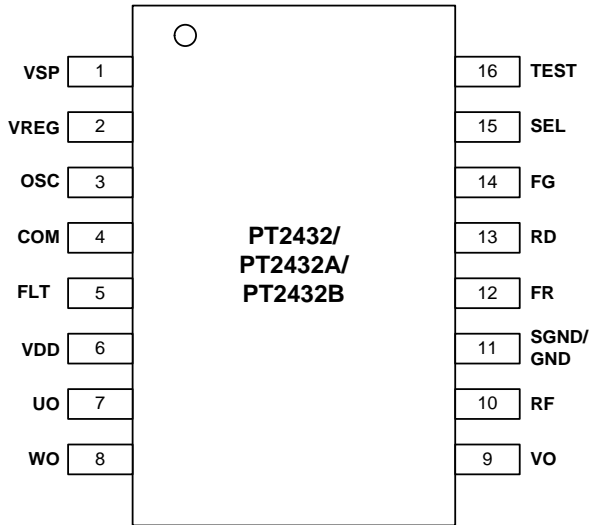
BOM FOR APPLICATION CIRCUIT

Part	Value	Unit	Description
C1	1u	F	Regulator stability capacitor
*C2	1n	F	Oscillator start-up capacitor, 100pF - 3.9nF
*C3	1n	F	ZC signal low pass filter capacitor, 100pF - 10nF
C4	10u	F	Power supply de-coupling capacitor
*R1	0.15	Ω	Reference voltage current limit resistor
R2	47	Ω	Voltage current limit resistor
D1	1N5819	V	Prevent BEMF feedback to power supply
Z1	28	V	Large voltage spike Zener protection diode
U1	PT2432C	IC	3-phase sensor-less driver IC

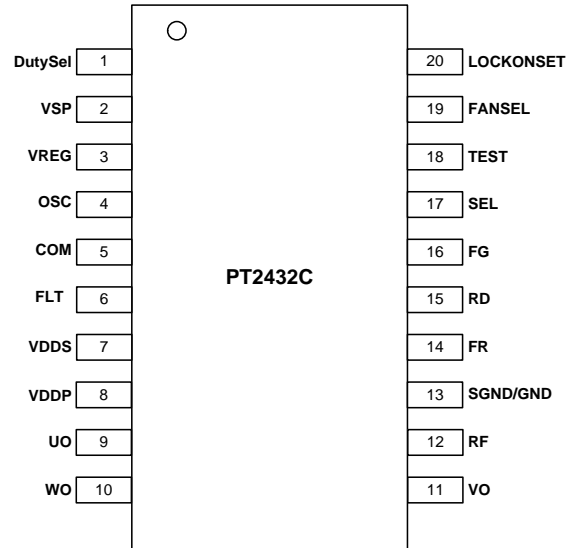
Notes : 1. C2 & C3 are depend on motor type.
 2. R1 is depend on motor application.

PIN CONFIGURATION

HTSSOP16



HTSSOP20



ORDER INFORMATION

Valid Part No.	Package Type	Top Code
PT2432	16 Pins, HTSSOP	PT2432-HT
PT2432A	16 Pins, HTSSOP	PT2432A-HT
PT2432B	16 Pins, HTSSOP	PT2432B-HT
PT2432C	20 Pins, HTSSOP	PT2432C-HT

IMPORTANT NOTICE

Princeton Technology Corporation (PTC) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and to discontinue any product without notice at any time.

PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

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