

DESCRIPTION

The PT5619 is a high-speed 3-phase gate driver for power MOSFET and IGBT devices with three independent high and low side referenced output channels. Built-in dead time protection and shoot-through protection prevent damage to the half-bridge. The UVLO circuits prevent malfunction when VCC and VBS are lower than the specified threshold voltage. A novel high-voltage BCD process and common-mode noise canceling technique provide stable operation of high-side drivers under high dV/dt noise conditions while achieving excellent negative transient voltage tolerance. An enable pin (ENB) is included so that standby mode may be used to set the chip into a low quiescent current state to realize long battery lifetime.

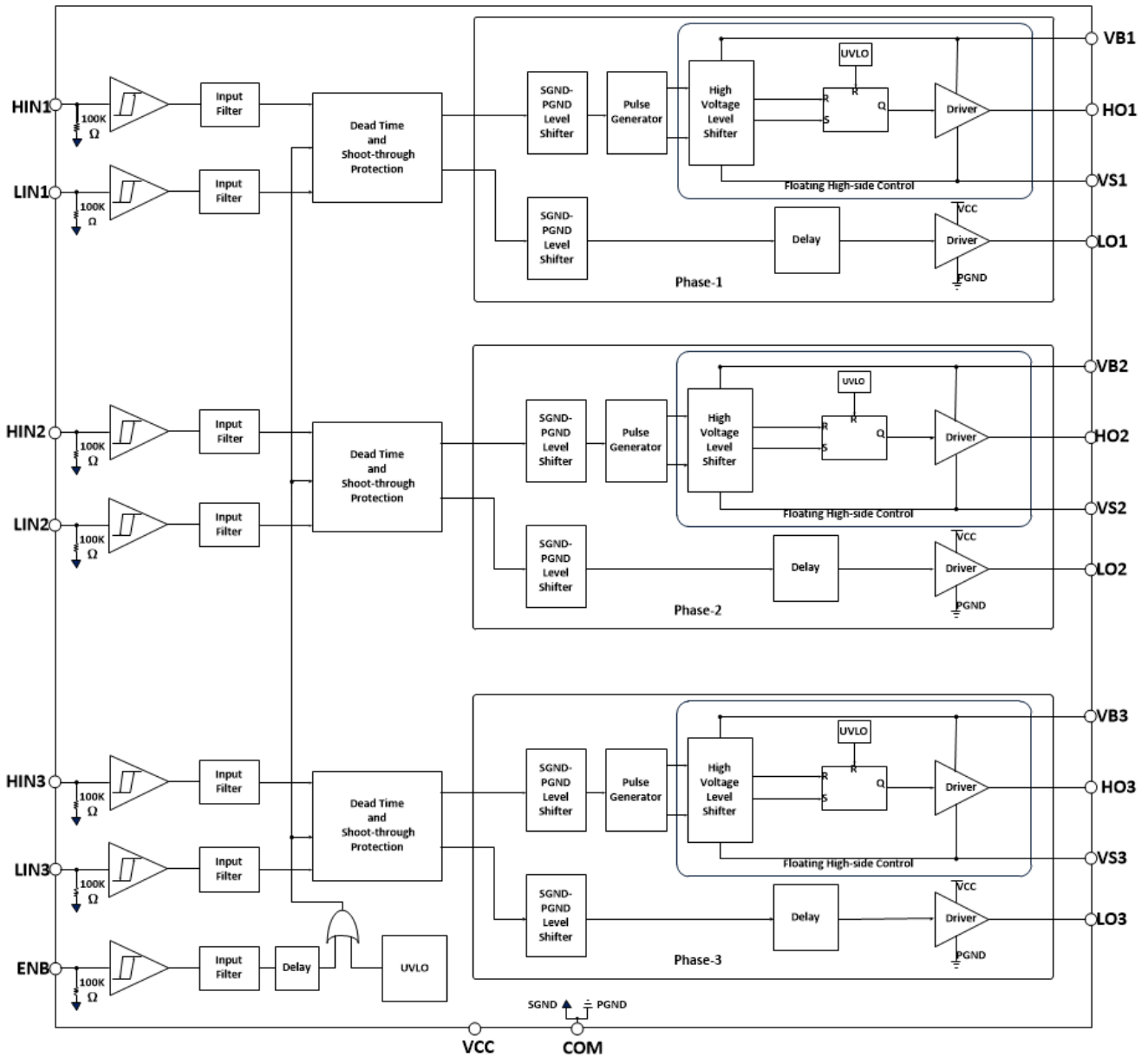
APPLICATION

- E-BIKE/electric power tool 3-phase motor driver
- Battery-powered mini/micro motor control
- General purpose inverter

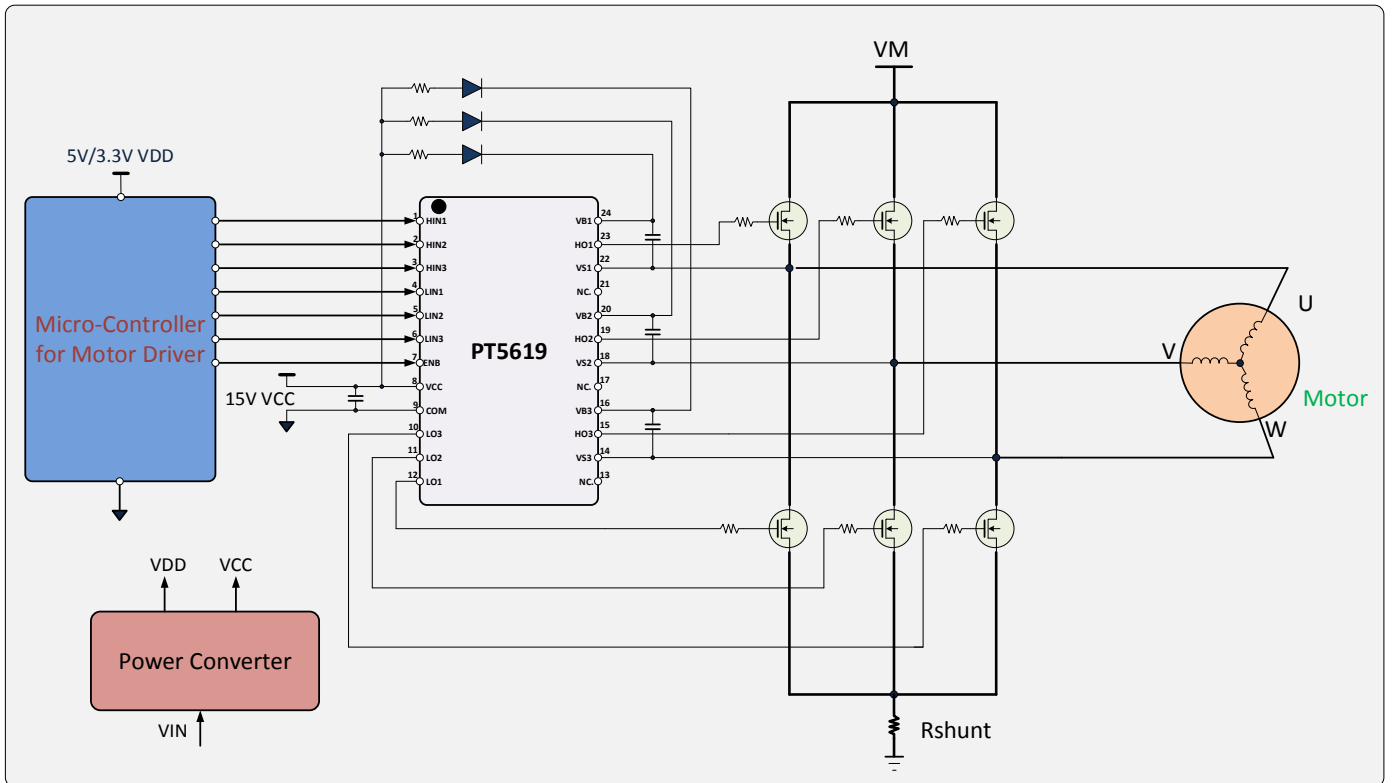
FEATURES

- Integrated 90V half-bridge high side driver
- Ability to drive up to 3-phase half-bridge gates
- Built-in dead time protection
- Shoot-through protection
- Under voltage lockout for VCC and VBS
- Low operation voltage 0–5.5V for VCC and VBS
- 3.3V and 5V input logic compatible
- Enable pin (ENB) for low standby current
- IO+/IO-: +1.2A/-2.0A at VCC=15V, VBS=15V
- Built-in dead time: 0.5 μ s (typ.)
- Common-mode dV/dt noise cancellation circuit
- Tolerant of negative transient voltage
- Low dI/dt gate drive for better noise immunity
- -40°C to 125°C operating range
- Small footprint package: TSSOP20L/24L, QFN24

BLOCK DIAGRAM



TYPICAL APPLICATION CIRCUIT

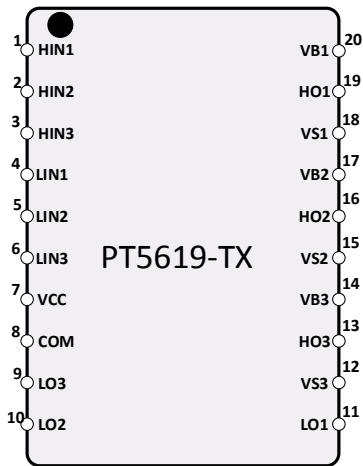


ORDER INFORMATION

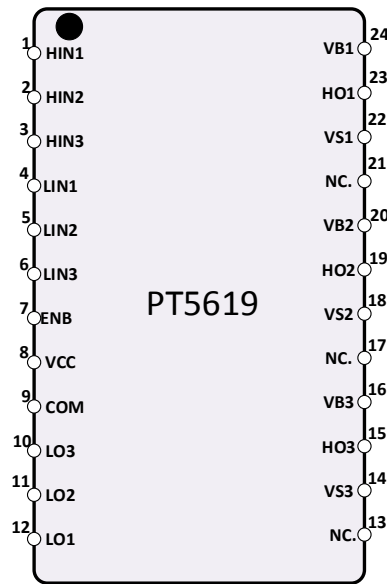
Valid Part Number	Package Type	Top Code
PT5619-TX	20 Pins, TSSOP	PT5619-TX
PT5619	24 Pins, TSSOP	PT5619
PT5619	24 Pins, QFN	PT5619

PIN CONFIGURATION

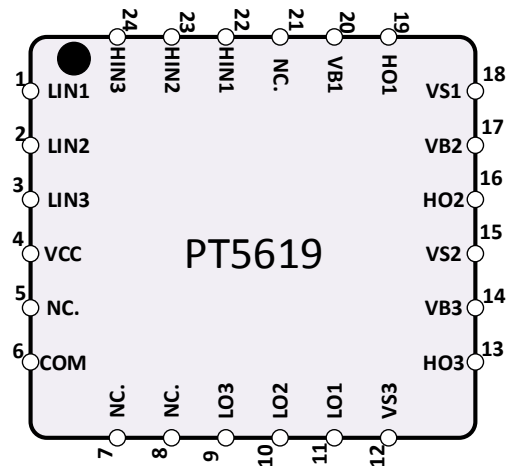
20-PIN, TSSOP



24-PIN, TSSOP



24-PIN, QFN



PIN DESCRIPTION

Pin Name	Description	Pin No.		
		TSSOP		QFN
		20-Pin	24-Pin	24-Pin
HIN1	Logic input for phase-1 high-side gate driver	1	1	22
HIN2	Logic input for phase-2 high-side gate driver	2	2	23
HIN3	Logic input for phase-3 high-side gate driver	3	3	24
LIN1	Logic input for phase-1 low-side gate driver	4	4	1
LIN2	Logic input for phase-2 low-side gate driver	5	5	2
LIN3	Logic input for phase-3 low-side gate driver	6	6	3
ENB	Logic input for standby mode control	-	7	-
VCC	Logic and low-side gate drivers power supply voltage	7	8	4
NC	Not connected	-	-	5
COM	Logic ground and low-side gate drivers ground	8	9	6
NC	Not connected	-	-	7
NC	Not connected	-	-	8
LO3	Phase-3 low-side gate driver output	9	10	9
LO2	Phase-2 low-side gate driver output	10	11	10
LO1	Phase-1 low-side gate driver output	11	12	11
NC.	Not connected	-	13	-
VS3	Phase-3 high-side driver floating supply offset voltage	12	14	12
HO3	Phase-3 high-side driver output	13	15	13
VB3	Phase-3 high-side driver floating supply	14	16	14
NC.	Not connected	-	17	-
VS2	Phase-2 high-side driver floating supply offset voltage	15	18	15
HO2	Phase-2 high-side driver output	16	19	16
VB2	Phase-2 high-side driver floating supply	17	20	17
NC.	Not connected	-	21	-
VS1	Phase-1 high-side driver floating supply offset voltage	18	22	18
HO1	Phase-1 high-side driver output	19	23	19
VB1	Phase-1 high-side driver floating supply	20	24	20
NC	Not connected	-	-	21

IMPORTANT NOTICE

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