

DESCRIPTION

The PT2475 is a quad DMOS full-bridge driver capable of driving up to two stepper motors or four DC motors. Each full-bridge output is rated up to 1.2A and 36V. The PT2475 includes fixed off-time pulse width modulation (PWM) current regulators, along with 2-bit nonlinear DACs (digital-to-analog converters) that allow stepper motors to be controlled in full, half, and quarter steps, and DC motors in forward, reverse, and coast modes. The PWM current regulator uses mixed decay mode for reduced audible motor noise, increased step accuracy, and reduced power dissipation.

Internal synchronous rectification control circuitry is provided to improve power dissipation during PWM operation.

Protection features include thermal shutdown with hysteresis, under-voltage lockout (UVLO) and crossover current protection. Special power up sequencing is not required.

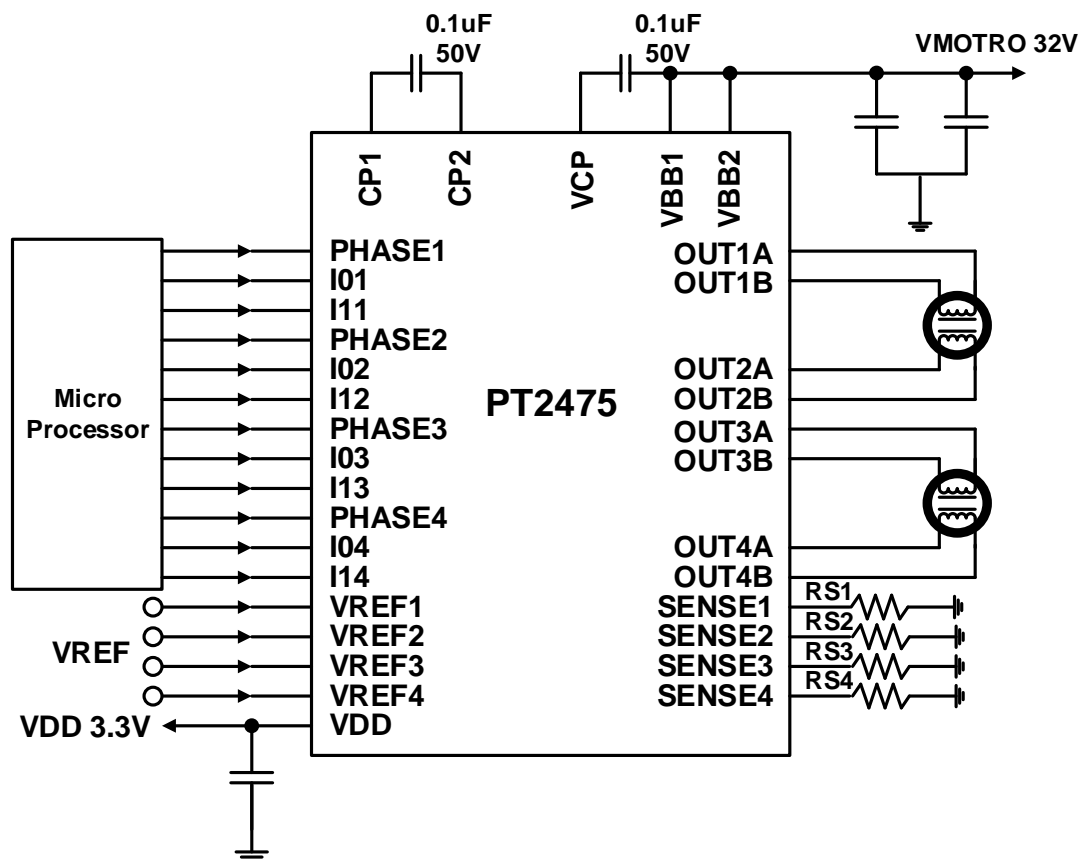
FEATURE

- 36V output rating
- 4 full bridges
- Dual stepper motor driver
- High current outputs
- 3.3 and 5V compatible logic supply
- Synchronous rectification
- Internal under-voltage lockout (UVLO)
- Thermal shutdown circuitry
- Crossover-current protection
- Low profile QFN package

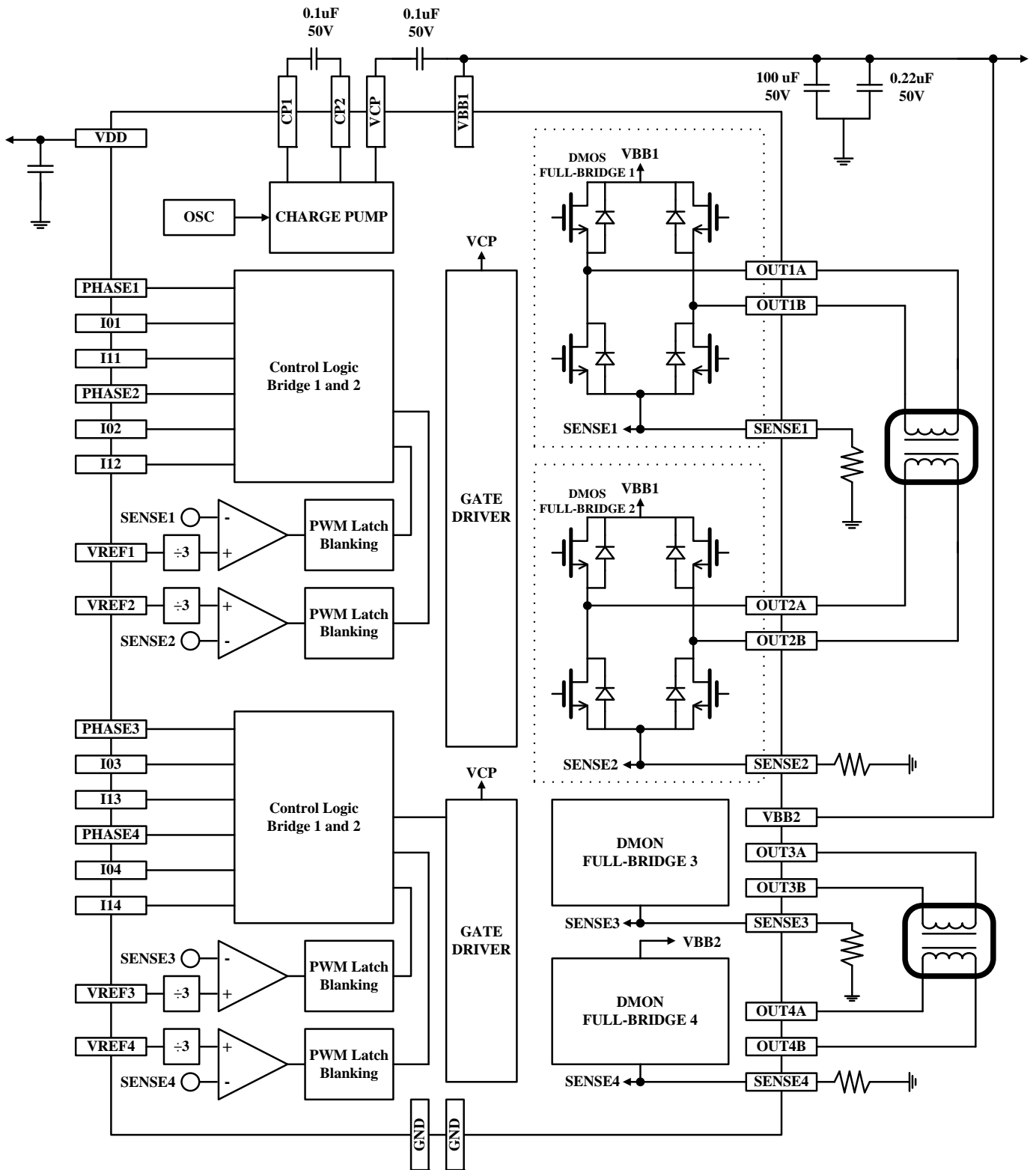
APPLICATION

- Robotics
- Security monitoring, high-speed ball
- Engraving machine, laser cutting machine
- Scanner, copier

BLOCK DIAGRAM



APPLICATION CIRCUIT



PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.	
			QFN36	ELQFP48
OUT1A	O	DMOS Full-Bridge 1 Output A	2	3
SENSE1	O	Sense Resistor Terminal for Bridge 1	3	4
OUT1B	O	DMOS Full-Bridge 1 Output B	4	5
VBB1	Power	Load Supply Voltage	5	6
OUT2B	O	DMOS Full-Bridge 2 Output B	6	8
SENSE2	O	Sense Resistor Terminal for Bridge 2	7	9
OUT2A	O	DMOS Full-Bridge 2 Output A	8	10
PHASE4	I	Control input	9	13
PHASE3	I	Control input	10	14
VDD	Power	Logic Supply Voltage	11	15
VREF1	I	Analog Input	12	16
VREF2	I	Analog Input	13	17
VREF3	I	Analog Input	14	18
VREF4	I	Analog Input	15	19
GND	Power	Ground	16	20
PHASE2	I	Control input	17	21
PHASE1	I	Control input	18	22
I14	I	Control input	19	24
OUT4A	O	DMOS Full-Bridge 4 Output A	20	27
SENSE4	O	Sense Resistor Terminal for Bridge 4	21	28
OUT4B	O	DMOS Full-Bridge 4 Output B	22	29
VBB2	Power	Load Supply Voltage	23	31
OUT3B	O	DMOS Full-Bridge 3 Output A	24	32
SENSE3	O	Sense Resistor Terminal for Bridge 3	25	33
OUT3A	O	DMOS Full-Bridge 3 Output B	26	34
I13	I	Control input	27	37
I12	I	Control input	28	38
I11	I	Control input	29	39
GND	Power	Ground	30	40
VCP	O	Reservoir Capacitor Terminal	31	42
CP1	O	Charge Pump Capacitor Terminal	32	43
CP2	O	Charge Pump Capacitor Terminal	33	44
I01	I	Control input	34	45
I02	I	Control input	35	46
I03	I	Control input	36	47
I04	I	Control input	1	48
NC	-	NC pin	-	1, 2, 7, 11, 12, 23, 25, 26, 30, 35, 36, 41
-	-	Exposed pad for enhanced thermal performance. Should be soldered to the PCB.	-	-

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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