DESCRIPTION

The PT2465 is a PWM constant-current type stepping motor driver designed for sinusoidal-input micro-step control of stepping motors.

The PT2465 provides several excitation modes for bipolar stepping motor, such as 2-phase, 1-2-phase, W1-2-phase and 2W1-2 phase. The PT2465 is capable of forward and reverse driving of a 2-phase bipolar stepping motor using only a clock signal.

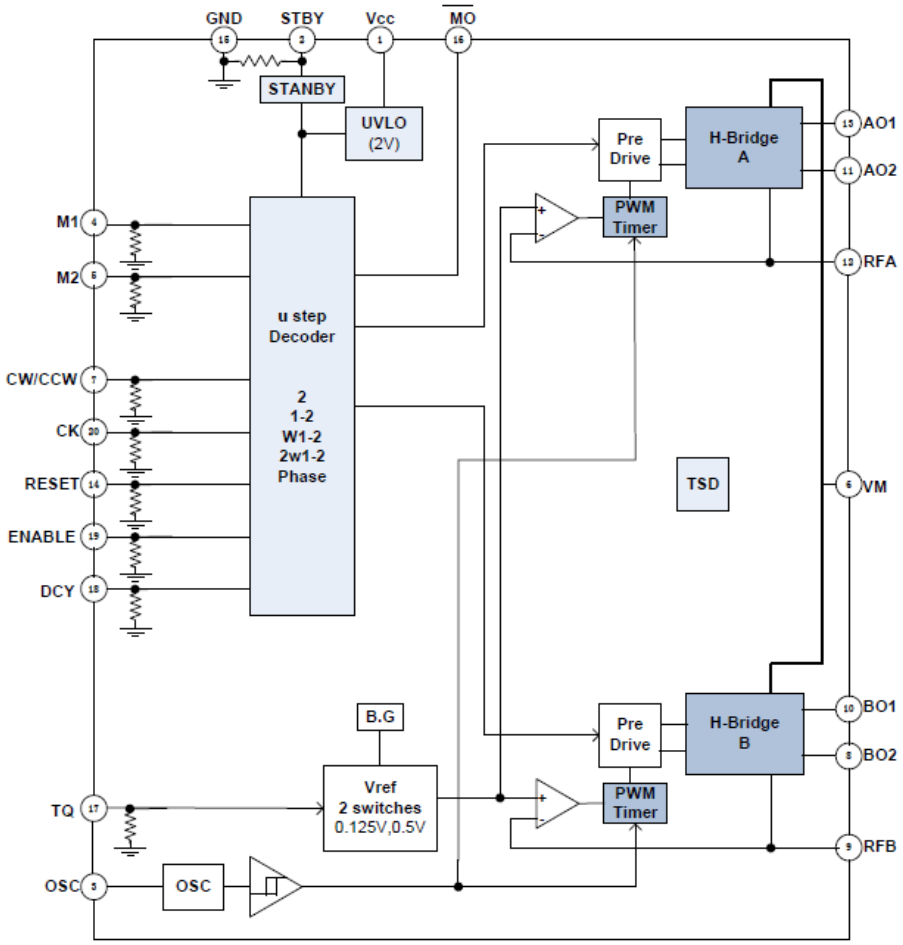
APPLICATIONS

- Digital camera system
- Interchangeable Lens

FEATURES

- Range of motor power supply voltage:
  - Control (VCC): 2.5V to 5.5V
  - Motor (VM) : 2.5V to 16V
- Output current: $I_{OUT} \leq 0.8$ A (max)
- Output ON-resistance: Ron = 1.5Ω (upper and lower total @VM = 7 V)
- Decoder that enables microstep control with the clock signal
- Selectable phase excitation modes (2, 1-2, W1-2 and 2W1-2)
- Internal pull-down resistors on inputs: 200 KΩ (typ.)
- Output monitor pin ($\overline{MO}$)
- Thermal shutdown (TSD) protection
- Under voltage lock out (UVLO) protection
- Small surface-mount package (TSSOP-20 173mil, 0.65 mm lead pitch)

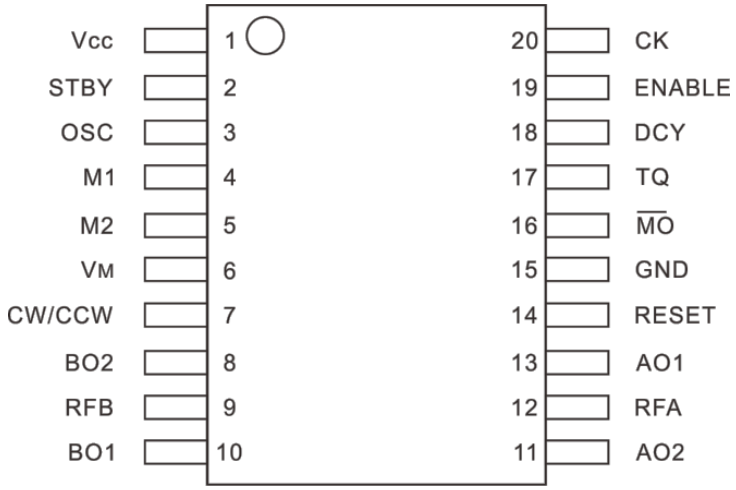
BLOCK DIAGRAM



ORDER INFORMATION

Part Number	Package Type	Top Code
PT2465-TX	20-PIN, TSSOP, 173MIL	PT2465-TX

PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.
V_{CC}	Power	Power supply pin for logic block	1
STBY	I	Standby input, See the Input Signals and Operating Modes table.	2
OSC	I	Connection pin for an external capacitor used for internal oscillation	3
M1	I	Excitation mode setting input 1, See the Excitation Mode Settings table.	4
M2	I	Excitation mode setting input 2, See the Excitation Mode Settings table.	5
V_M	Power	Power supply pin for output	6
CW/CCW	I	Rotation direction select input, See the Input Signals and Operating Modes table.	7
BO2	O	B-phase output 2, Connect BO2 to a motor coil pin.	8
RFB	O	Connection pin for a B-phase output current detection resistor	9
BO1	O	B-phase output 1, Connect BO1 to a motor coil pin.	10
AO2	O	A-phase output 2, Connect AO2 to a motor coil pin.	11
RFA	O	Connection pin for an A-phase output current detection resistor	12
AO1	O	A-phase output 1 Connect AO1 to a motor coil pin.	13
RESET	I	Reset input See the Input Signal and Operating Modes table.	14
GND	GND	Ground	15
$\overline{MO}$	O	Monitor output, Initial state: $\overline{MO}$ = Low (open drain, pulled up by an external resistor)	16
TQ	I	Vref setting input See the Vref Voltage Setting table.	17
DCY	I	Decay setting input, See the Fast-Decay Time Inserted During the Current Decay Period table.	18
ENABLE	I	Enable input, See the Input Signal and Operating Modes table.	19
CK	I	Clock input	20