

## DESCRIPTION

The PT12477 is a monolith integrated motor driver designed for printers, scanners, and home or office automated equipment. The dual H-bridge drivers are consisting by all of N-channel MOSFETs, and designed to drive a 4-wires bipolar stepper motor. The output driving current of the PT12477 allows up to 1.6 Amps (mounted on dual layer PCB with proper heatsinking,  $V_M=24V$ ,  $T_A=25^\circ C$ ).

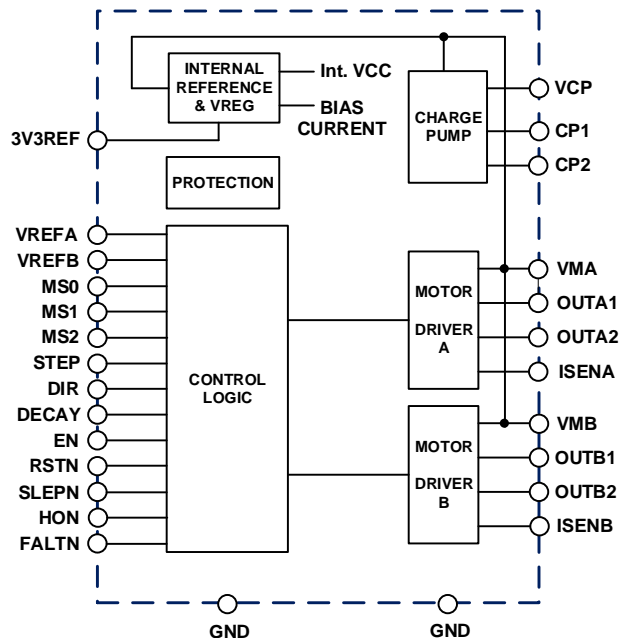
To simplified control interface, the STEP and DIR pins allows easy communicates with micro controller, Three Mode Select pins allow for configuration the micro steps from full-step divides to 1/32 micro-step. 3 kind of winding current decay modes are configurable to keeps motor not missing step and low current ripple. A low-power sleep mode is provided which shuts down internal circuitry to achieve very-low quiescent current draw. This sleep mode can be sets by SLEPN pin.

The PT12477 is available in 28-pins HTSSOP or 28-pins QFN package, both packages with thermal pad.

## APPLICATIONS

- Automatic teller machines
- Video security cameras
- Printers
- Scanners
- Office automation machines
- Amusement machines
- Factory automation
- Robotics

## BLOCK DIAGRAM

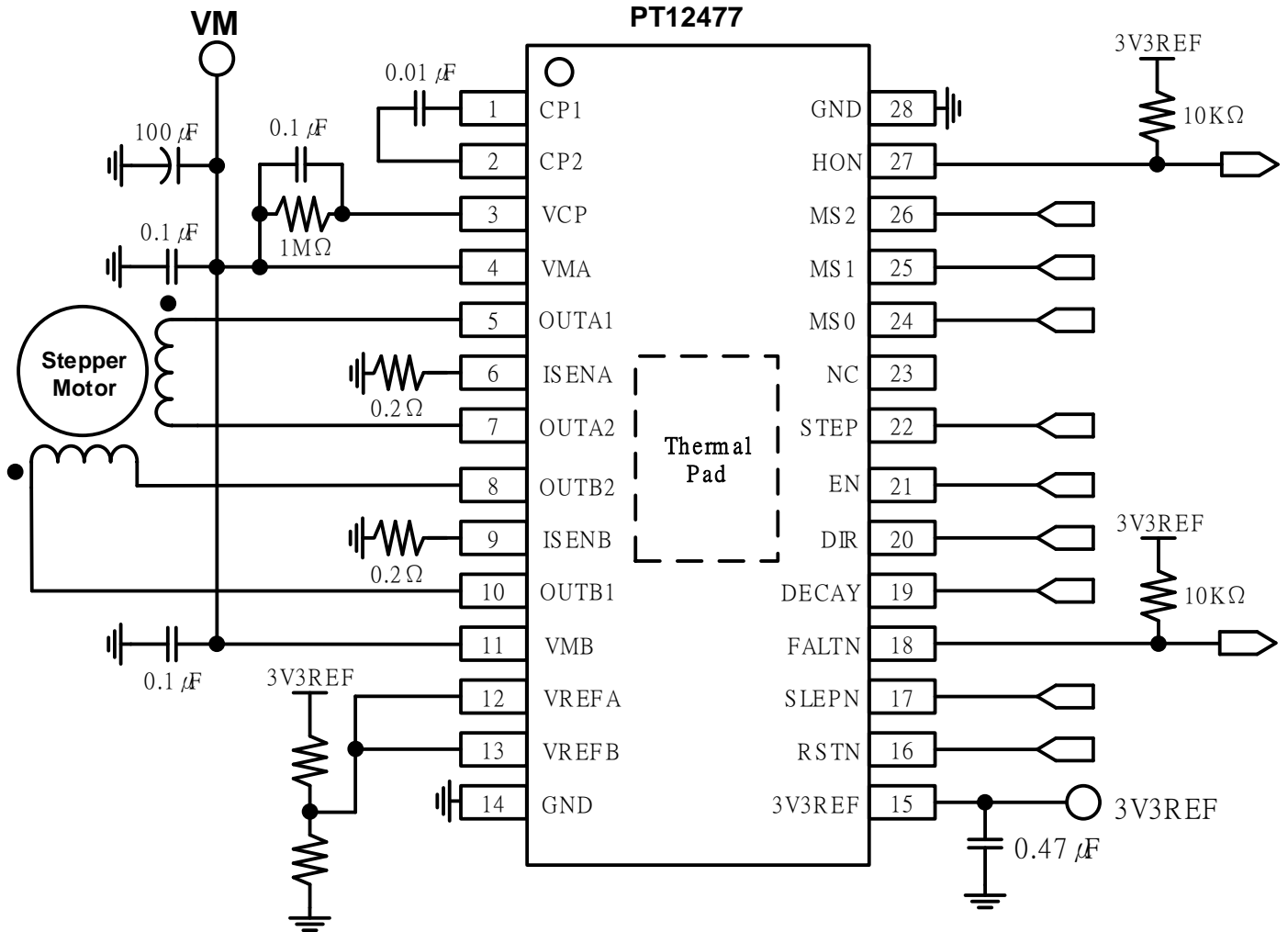


## FEATURES

- Automotive AEC-Q100 Grade 1 ( $-40^\circ C \sim +125^\circ C$ ) Qualified.
- 7.4-V to 45-V supply voltage range
- 1.6-A maximum driving current at  $V_M=24V$  (with additional heatsink)
- Dual H-bridge driver for bipolar stepper motor with such features:
  - PWM chopping constant current regulation
  - Built-In micro stepping sequencer
  - Multiple micro steps, Full, 1/2, 1/4, 1/8, 1/16 and up to 1/32 steps
- STEP and DIR logic inputs can control stepping motor revs and direction.
- Winding current decay modes
  - Mixed Decay
  - Slow Decay
  - Fast Decay
- Built In a 3.3V reference voltage output
- Low-power sleep mode
- Protection features
  - Over current protection (OCP)
  - Thermal shutdown (TSD)
  - VM under voltage lock out (UVLO)
  - Fault indication pin (FALTN)

**PT12477**

# APPLICATION CIRCUIT



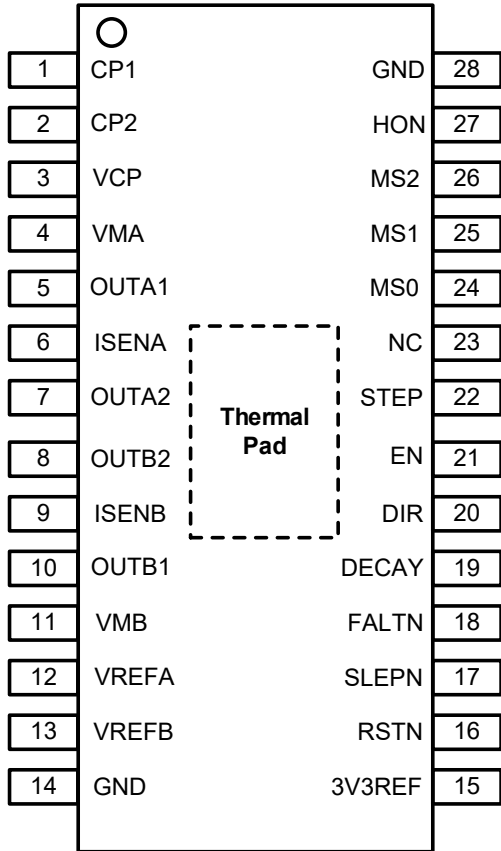
(HTSSOP-28 package for example)

## ORDER INFORMATION

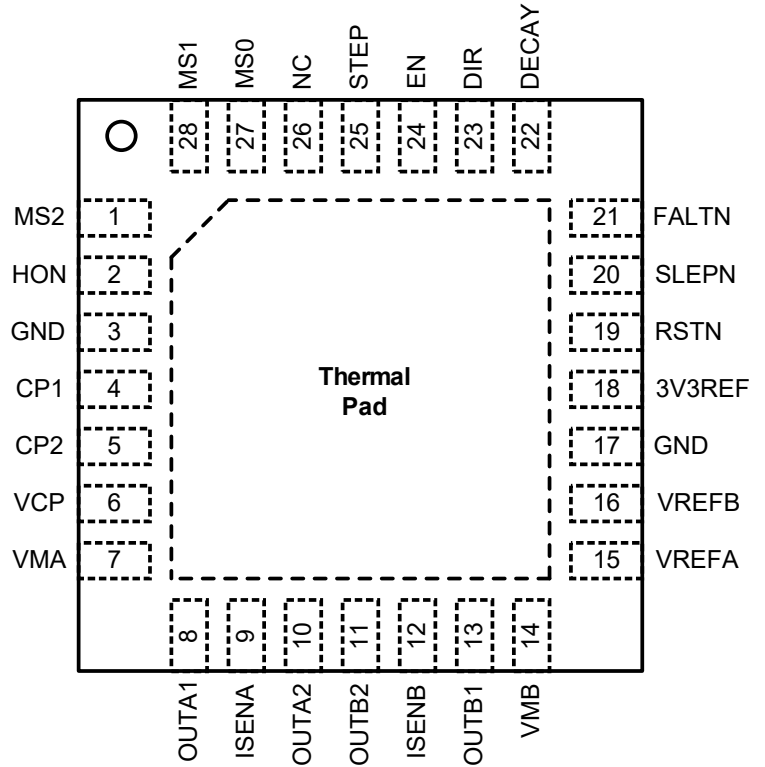
| Valid Part Number | Package Type    | Top Code   |
|-------------------|-----------------|------------|
| PT12477-HT        | 28 Pins, HTSSOP | PT12477-HT |
| PT12477           | 28 Pins, QFN    | PT12477    |

# PIN CONFIGURATION

**PT12477**  
**28-Pin HTSSOP**  
**Top View**



**PT12477**  
**28-PIN QFN**  
**TOP VIEW**



## **IMPORTANT NOTICE**

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