



Product Overview

LV8714TA: Dual Stepper Motor Driver, Ultra-small Micro Steps

For complete documentation, see the data sheet

Product Description

The LV8714TA is an extremely energy efficient dual stepper motor driver with operating voltage range from 4 V to 16.5 V. With low on resistance type power FETs, loss-less current sensing, synchronous rectification, and ultra-low standby current ($<1\mu\text{A}$), the device offers the best-in-class energy efficient system solution. Integrated regulators enable one-chip, single supply system solution. Built-in system protection functions such as over-current, thermal shutdown and low voltage shutdown enable a highly reliable system solution with smallest system solution footprint. Among wide variety of applications that the LV8714TA addresses are security camera systems, point of sale (PoS) terminals, document scanners and multi-function printers.

Features

- Quad H-bridges with PWM based constant-current control
- Power FETs with low on resistance (Upper: 0.6 Ω , Lower: 0.3 Ω , Total of upper and lower: 0.9 Ω @ $T_a=25^\circ\text{C}$, $I_o=1.5\text{A}$)
- Internal current sense mechanism without external power resistors
- On-chip regulators for logic circuits and power FETs biasing
- Power saving mode with ultra-low standby current ($<1\mu\text{A}$) when idle
- Built-in system protection functions such as thermal shutdown, low-voltage shutdown and over-current protection
- Full, Half, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256 and over microstep drive is realizable by controlling VREF voltage

Benefits

- One-chip solution that drives dual stepper or quad DC motors
- Minimizes power loss while in operation
- Loss-less current sensing that enhances energy efficiency
- Single supply operation without external component
- Enhances energy efficiency of the system solution
- Reliable system solution under harsh operating conditions
- High convenience by abundant excitation mode, and low vibration by high resolution

Applications

- Industrial
- Computing & Peripherals

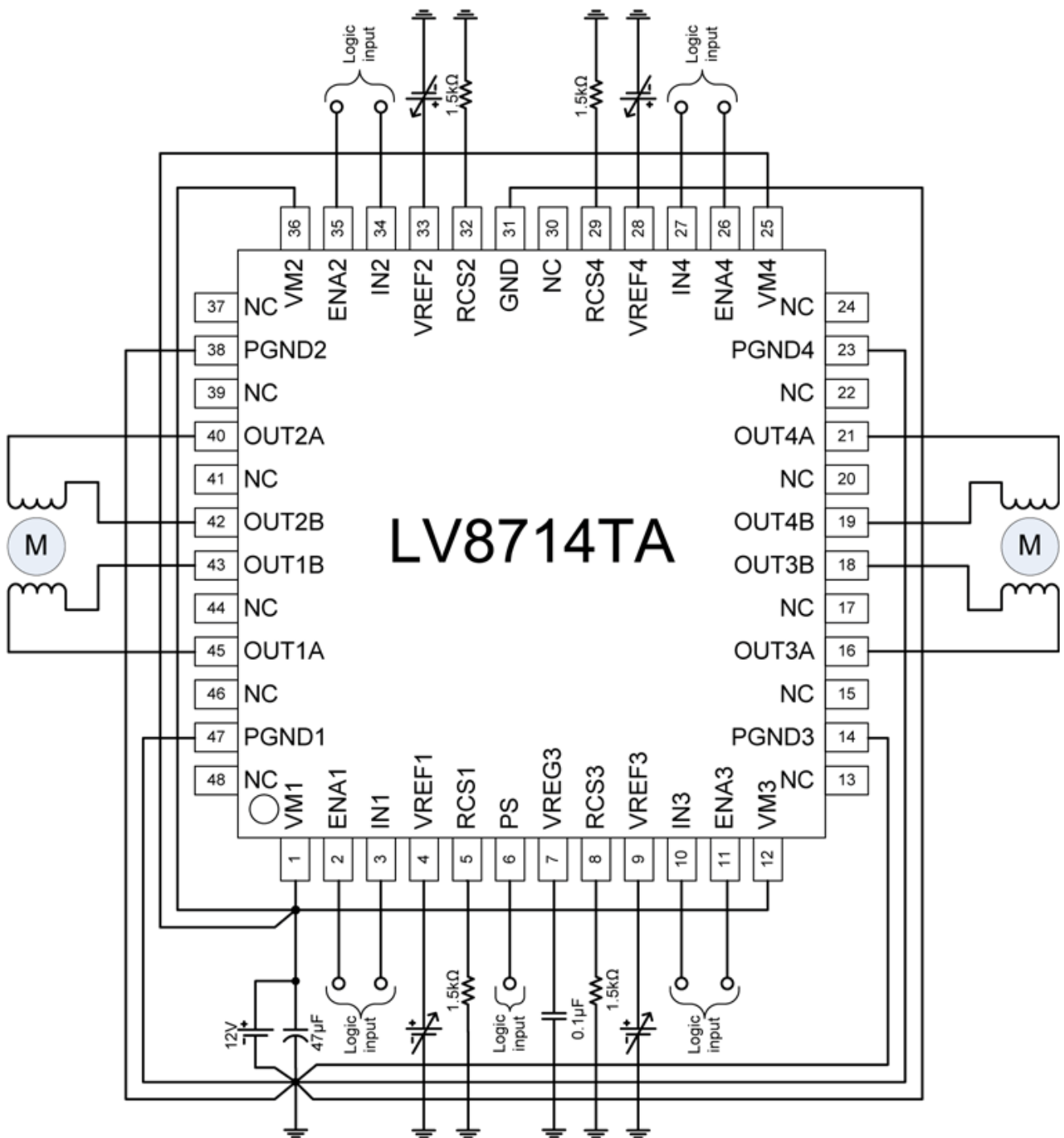
End Products

- Surveillance Camera
- Stagelight
- Scanner
- POS and Multi-purpose Printers

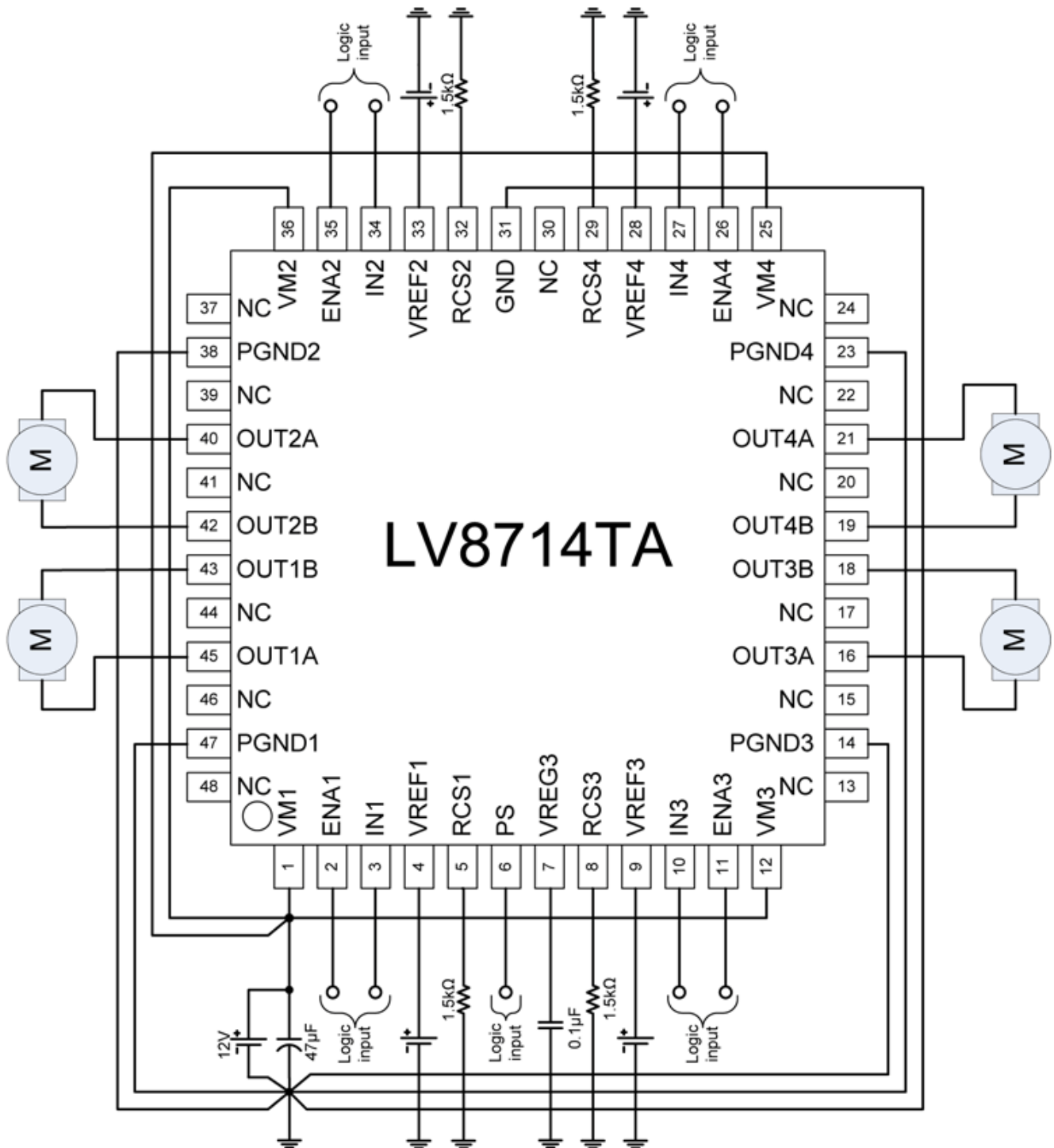
Part Electrical Specifications

Product	Compliance	Status	Type	V _M Min (V)	V _M Max (V)	V _{CC} Min (V)	V _{CC} Max (V)	I _O Max (A)	I _O Peak Max (A)	Step Resolution	Control Type	Feedback Method	Current Sense	Regulator Output	Fault Detection	Flyback Protection	R _{DS(on)} Typ (Ω)	Package Type
LV8714TA-NH	Pb-free Halide free	Active	Stepper/Brush DC	4	16.5			1.5	1.75	1 1/1 28 1/1 6 1/2 1/2 56 1/3 2 1/4 1/6 4 1/8	Parallel		External Resistor		Over-Current Thermal UVLO		0.9	QFP-48 / TQFP-48

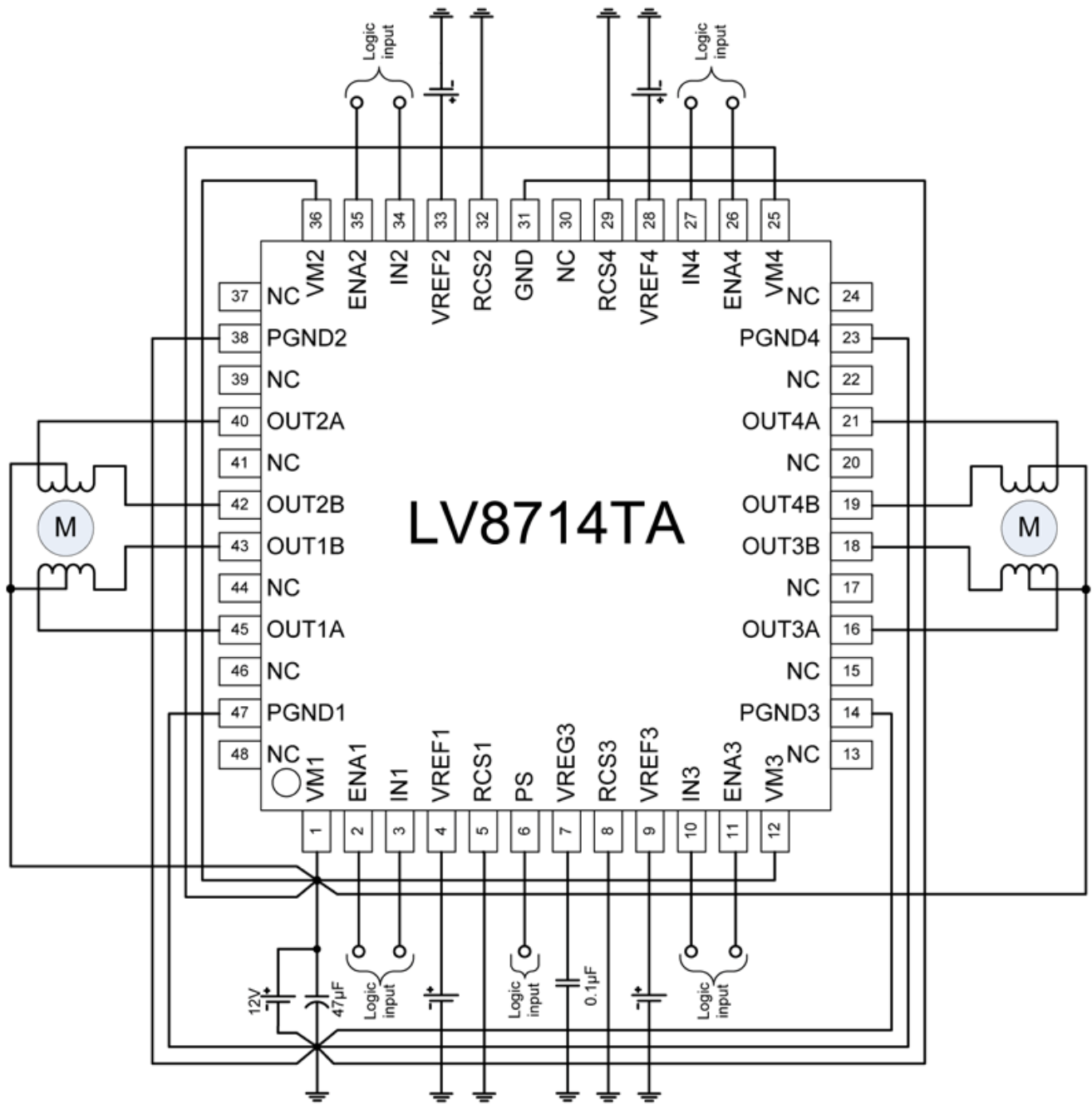
Two Bipolar Stepper motor Drive Using LV8714TA



Four Brushed DC motor Drive Using LV8714TA



Two Unipolar Stepper motor Drive Using LV8714TA



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