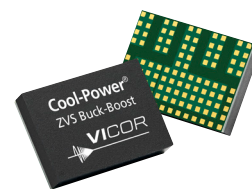


## PI37xx Series

## Cool-Power® ZVS Buck-Boost Switching Regulators

## High Performance Buck-Boost Regulators

For Communications and Industrial, 12, 24 and 48 V<sub>IN</sub> Bus, 24 V<sub>IN</sub> Line Stabilization and Automotive Accessories



## Description

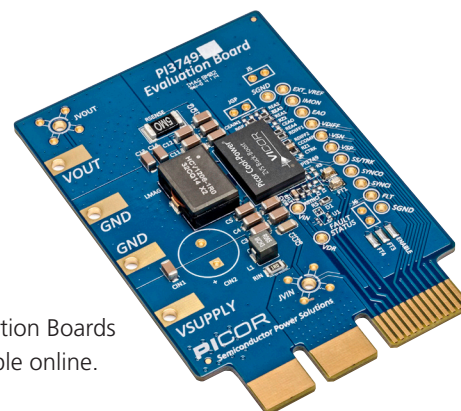
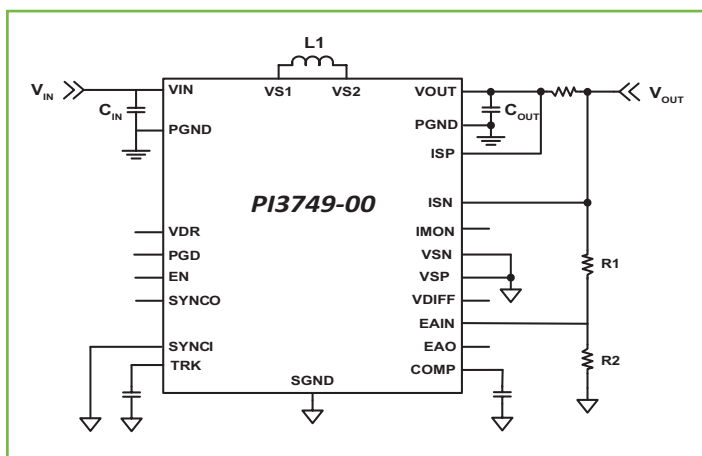
The PI37xx is a series of high efficiency, wide input range DC-DC ZVS-Buck-Boost regulators integrating controller, power switches, and support components all within a high density System-in-Package (SiP). The integration of a high performance Zero-Voltage Switching (ZVS) topology, within the PI37xx increases point of load performance providing best in class power efficiency. The PI37xx requires only an external inductor and minimal capacitors to form a complete DC-DC switching mode buck-boost regulator.

The ZVS architecture enables high frequency operation while minimizing switching losses and maximizing efficiency. The high switching frequency operation reduces the size of the external filtering components, improves power density, and enables very fast dynamic response to line and load transients. The PI37xx regulator sustains high switching frequency up to the rated input voltage without sacrificing efficiency and supports large conversion ratios.

## Features

- Over 98% efficiency at >800 kHz FSW
- Fast transient response
- Parallel capable
- External frequency synchronization/interleaving
- High-Side current sense amplifier
- General purpose amplifier
- Input over/under voltage lockout (OVLO/UVLO)
- Output overvoltage protection (OVP)
- Over temperature protection (OTP)
- Fast and slow current limits
- -40°C to 125°C operating range (TJ)

## PI37xx Typical Application

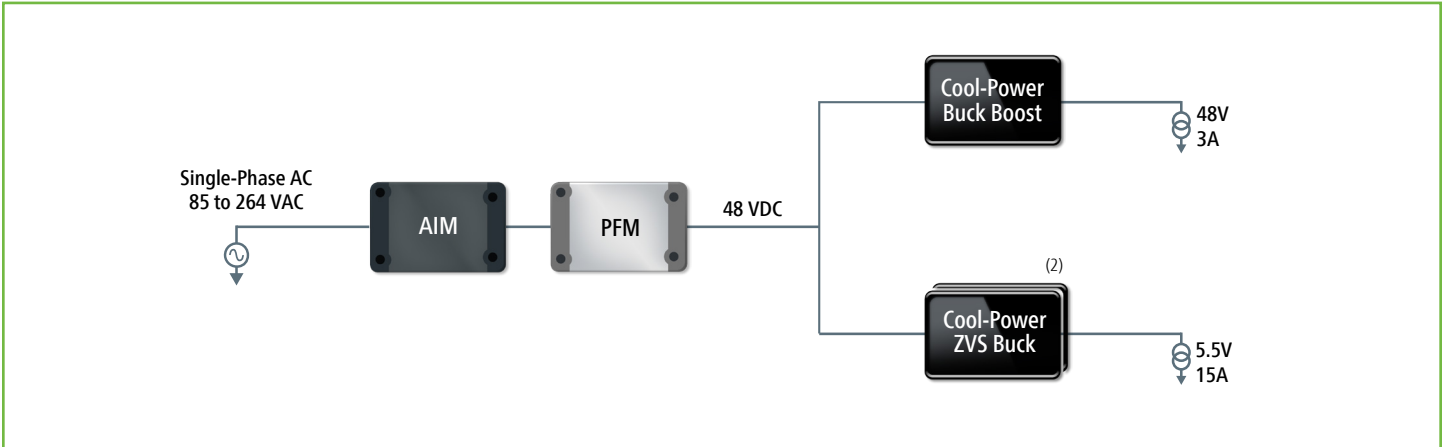


Evaluation Boards available online.

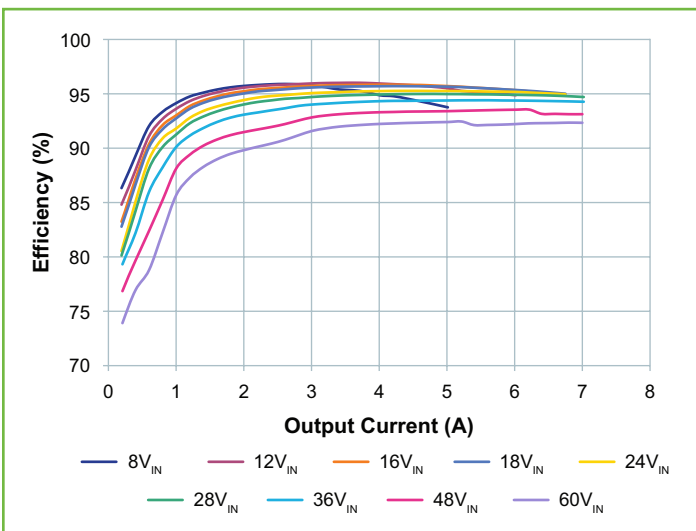
## Part Numbering

Cool-Power	Input (V)	Output (V)	Power (W)	Package
<b>High Performance Buck-Boost</b>				
PI3749-00-LGIZ	16 – 34	12 – 34	240	LGA SIP: 10 x 14 x 2.5mm
PI3741-00-LGIZ	21 – 60	21 – 36	140	
PI3741-01-LGIZ	21 – 60	36 – 54	150	
PI3740-00-LGIZ	8 – 60	10 – 50	140	

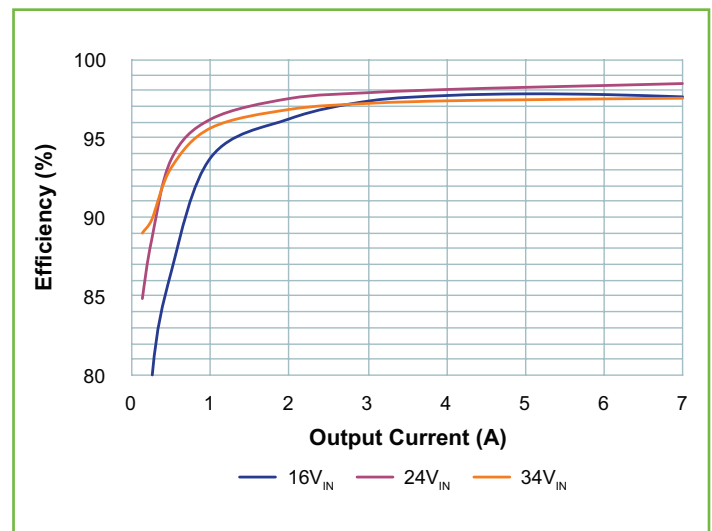
## Example Powerchain



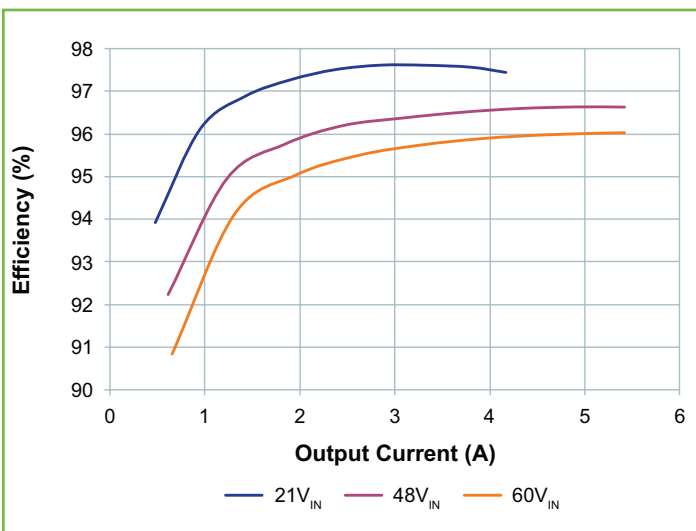
### Efficiency PI3740, 12V<sub>OUT</sub>



### Efficiency PI3749, 24V<sub>OUT</sub>



### Efficiency PI3741-00, 24V<sub>OUT</sub>



### Efficiency PI3741-01, 48V<sub>OUT</sub>

