

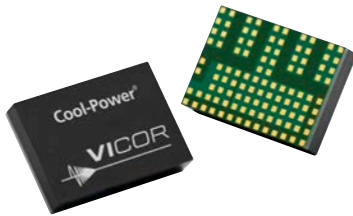
## 38 – 60V<sub>IN</sub>, 360W Cool-Power ZVS Buck-Boost Regulator

### Product Description

The PI3753-00 is a high efficiency, wide input range DC-DC ZVS Buck-Boost regulator. This high density module integrates controller, power switches, and support components. The integration of a high performance Zero-Voltage Switching (ZVS) topology, within the PI3753-00, increases point of load performance providing best in class power efficiency.

The PI3753-00 requires an externally applied 5V bias to the VDR input, an external inductor, resistive divider and minimal capacitors to form a complete DC-DC switching mode buck-boost regulator.

The ZVS architecture also 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 PI3753-00 sustains high switching frequency up to the rated input voltage without sacrificing efficiency and supports large conversion ratios.



### Features & Benefits

- Over 97.5% efficiency at 2.5MHz F<sub>SW</sub>
- Wide input voltage range of 38 – 60V
- Wide output voltage range of 24 – 60V
- Up to 360W continuous output power (for specific conditions)
- Light load mode <200mW typical no load power dissipation
- VTM compatibility mode
- High side current sense amplifier
- User configurable differential amplifier
- Input / Output Over / Undervoltage Protection
- Overtemperature Protection
- Fast and slow current limits
- –40°C to 125°C operating range (T<sub>J</sub>)

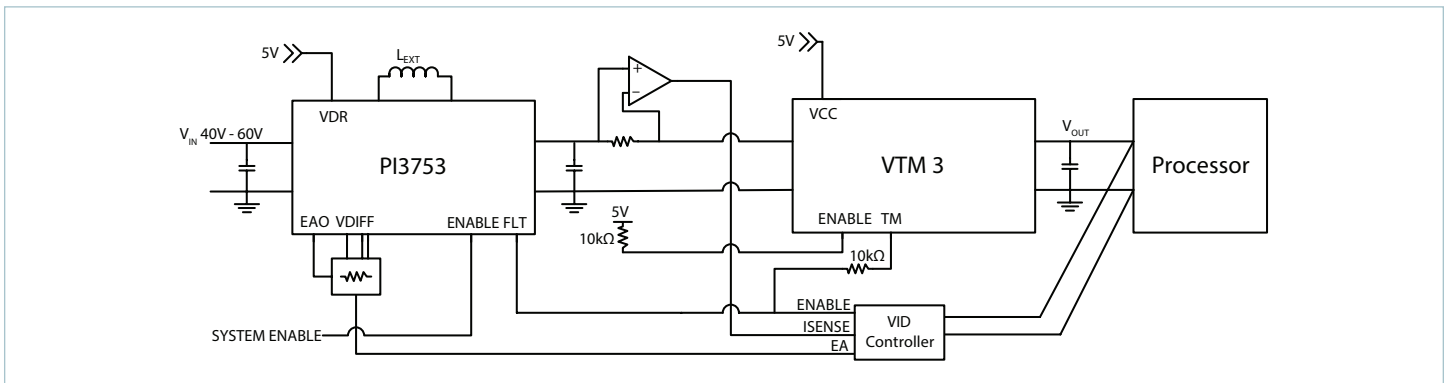
### Applications

- Factorized Power Solution (when coupled with a VTM® device)
- Computing, Communications, Processor, DDR Memory, GPU
- 48V to PoL Power Solutions

### Package Information

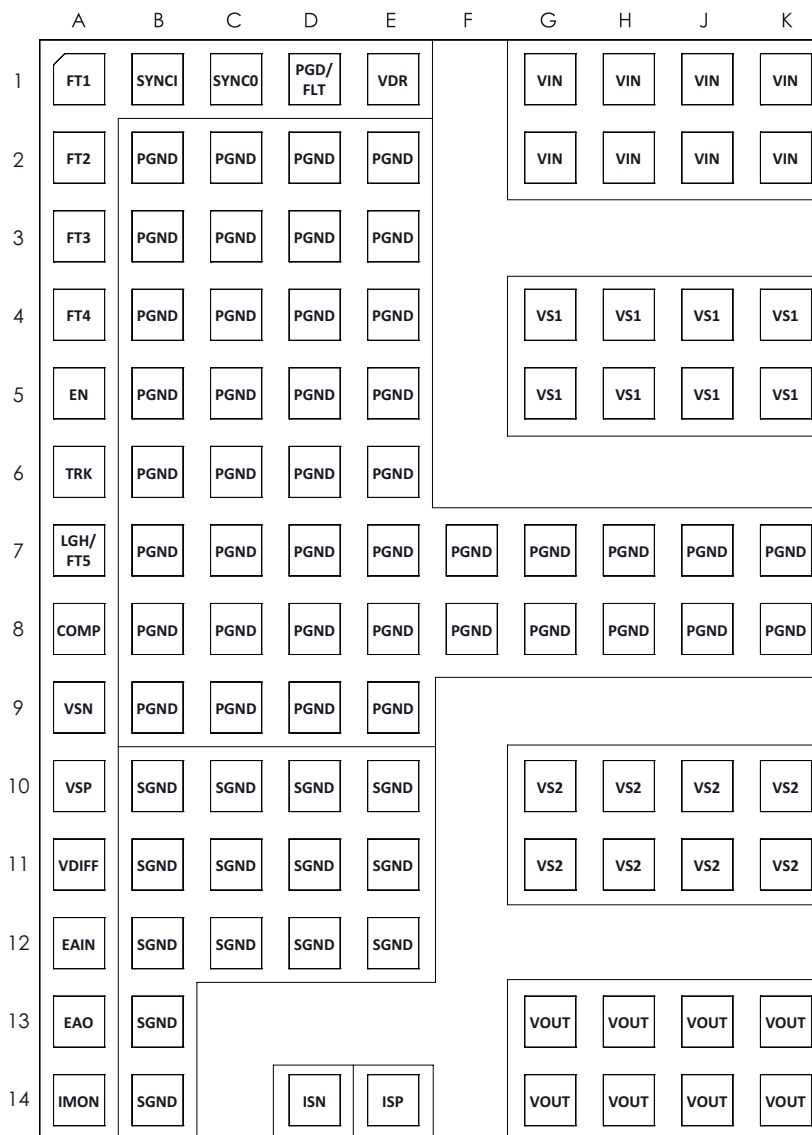
- 10mm x 14mm x 2.56mm Land Grid Array Module

### Typical Application



Applications Diagram for use within a Factorized Power, Computing Design

Package Pin-Out



BB 10x14mm SiP

TOP VIEW THROUGH THE PRODUCT

Large Pin Blocks

| Pin Block Name | Group of pins  |
|----------------|--|
| VIN            | K1-2, J1-2, H1-2, G1-2                               |
| VS1            | K4-5, J4-5, H4-5, G4-5                               |
| PGND           | K7-8, J7-8, H7-8, G7-8, F7-8, E2-9, D2-9, C2-9, B2-9 |
| VS2            | K10-11, J10-11, H10-11, G10-11                       |
| VOUT           | K13-14, J13-14, H13-14, G13-14                       |
| SGND           | E10-12, D10-12, C10-12, B10-14                       |

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