

## Description

PRM® Modules enable power architects to maximize the density and performance of their high power designs. The integration of a high performance Zero-Voltage Switching (ZVS) topology with custom magnetics results in a fully integrated buck-boost regulator with over 97% efficiency. With wide input voltage ranges optimized for 24, 36, 45, and 48 Volt inputs these regulators provide a regulated 48 Volt output which can be trimmed across a wide output range. Full sized packages (32.5 x 22 x 6.73 mm) can convert up to 600 Watts of power, also available in half-sized packages (22 x 16.5 x 6.73 mm) up to 250 Watts. Higher power conversion can be achieved by arraying modules together.

Use of a ZVS topology enables high-frequency operation that maximizes efficiency by minimizing the significant switching losses associated with conventional buck regulators using hard switching topologies. High switching frequency also reduces the size of the external filter components, providing power density while enabling fast dynamic response to line and load transients

MILCOTS version are also available.

See our website for more information.

[www.vicorpower.com](http://www.vicorpower.com)



## Features

### Simple to Use

- Point-of-load, ZVS Buck-Boost regulation
- Factorized Power Architecture
- Minimal external components

### High Density





- Up to 2,040 W/in<sup>3</sup>, with 600 W in 1.1in<sup>2</sup> package
- Wide Vin Optimized for 48 Vout
  - 24 Vin, 18 – 36 Vin range
  - 36 Vin, 18 – 60 Vin range
  - 45 Vin, 38 – 55 Vin range
  - 48 Vin, 36 – 75 Vin range


### High Efficiency

- Full Chip: Up to 600 W at 97.6%
- Half Chip: Up to 250 W at 96.7%

### Flexible

- Regulation: Remote sense, local loop, adaptive loop
- Parallel capable

PRM Model Number*	Input Voltage		Output Voltage Range (V)	Output Power Max. (W)	Output Current Max. (A)	Package
	Nom. (V)	Range (V)				
P024F048T12AL	24	18 – 36	26 – 55	120	2.5	Full
P036F048T12AL	36	18 – 60	26 – 55	120	2.5	Full
 PRM48AH480T200A00	48	36 – 75	20 – 55	200	4.17	Half
 PRM48AF480T400A00	48	36 – 75	20 – 55	400	8.33	Full
PRM48BH480T200B00	48	38 – 55	5 – 55	200	4.17	Half
PRM48DH480T250B03	48	38 – 60	5 – 55	200	4.17	Half
 PRM48BH480T250A00	48	38 – 55	20 – 55	250	5.21	Half
PRM48JH480T250A00	48	45 – 55	20 – 55	250	5.21	Half
PRM48JH480T250A02	48	45 – 55	20 – 55	250	5.21	Half
PRM48BF480T400B00	48	38 – 55	5 – 55	400	8.33	Full
 PRM48BF480T500A00	48	38 – 55	20 – 55	500	10.42	Full
PRM48JF480T500A00	48	45 – 55	20 – 55	500	10.42	Full
PRM48BF480T600A00	48	38 – 55	5 – 55	600	12.5	Full

\*Full-chip models also available in through hole. All models available in M grade.  Configurable at [vicorpower.com](http://vicorpower.com)

## Application Examples

Figure 1: Stand Alone

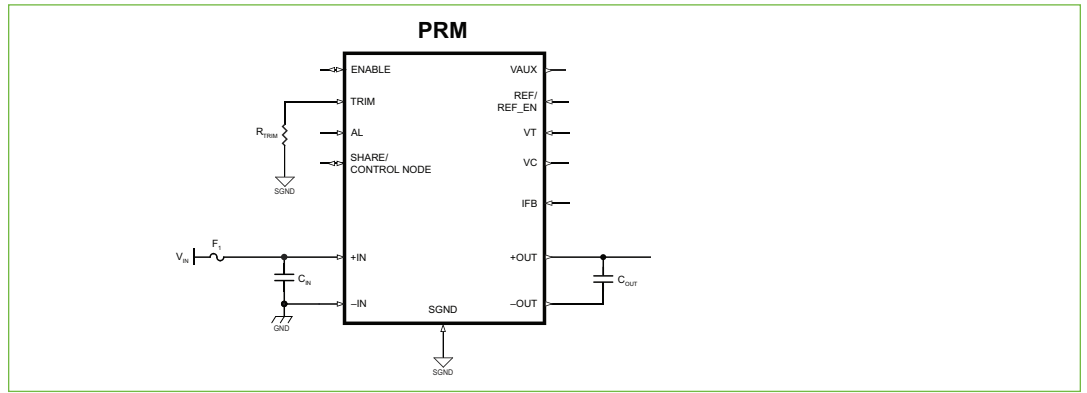


Figure 2: Remote Sense

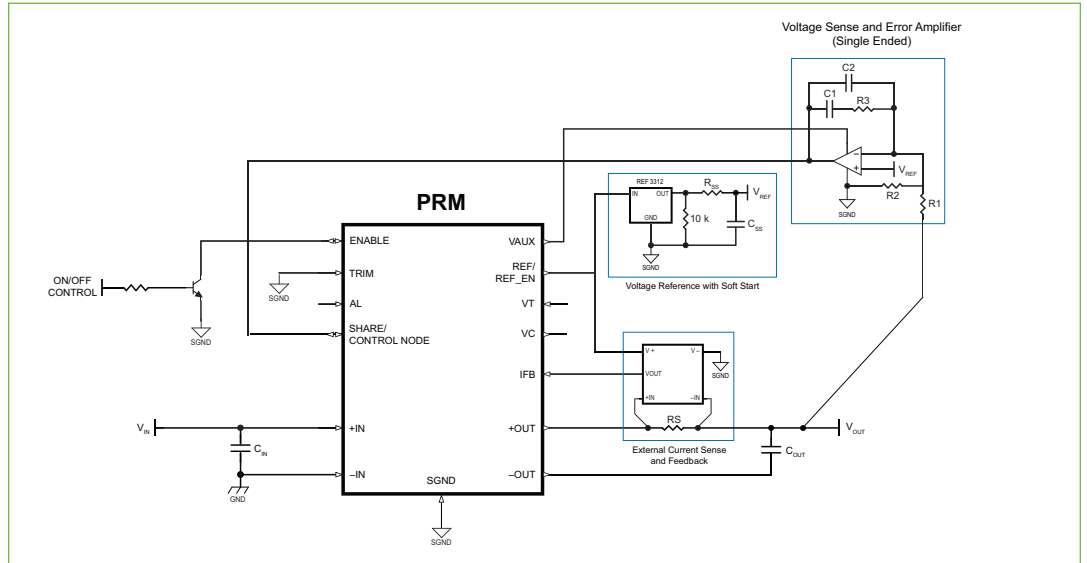


Figure 3 : Array

