

# High Voltage

## BCM<sup>®</sup> Bus Converter Module

Isolated, Fixed Ratio Bus Converter Family



For use in high end computing systems, industrial systems, Telcom/datacom systems and 384V<sub>DC</sub> power distribution architectures.

### Description

High Voltage Bus Converter Modules (HV BCMs) are 384V<sub>IN</sub> power components that provide voltage transformation, current multiplication and isolation for designs that require high power density, high efficiency, small size and low weight. Buck or Buck-Boost regulators can be connected to the HV BCM output to provide the necessary regulated voltage for specific system loads. HV BCMs support common industry DC bus voltages of 12V, 24V, and 48V from 384V DC bus. With peak efficiencies of up to 98% and power densities of up to 2,735W/in<sup>3</sup>, Vicor's HV BCM product family offers benchmark performance in a small, cost effective package.

Utilizing Vicors resonant Sine Amplitude Converter (SAC) topology, HV BCMs leverage high frequency Zero-Voltage Switching (ZVS) and Zero-Current Switching (ZCS) to deliver unmatched efficiency and power density with low noise and fast transient response. In addition, the BCM's low AC impedance, beyond the bandwidth of most downstream regulators, enables bulk capacitance, normally located at the input of a regulator, to be placed at the high voltage input to the BCM. This reduces bulk capacitance requirement and offers saving of board area and system cost. When HV BCMs operate in reverse, they multiply the 12V, 24V and 48V up to 384V to provide an efficient step-up conversion.

Offered in a range of packages, power levels and size options, BCMs provide unmatched performance to meet the demanding requirements of modern power system designs.

[1] The PMBus name SMIF, Inc. and logo are trademarks of SMIF, Inc.

### Part Numbers

Model Number	Input (V)	Output (V)	Output Power (W)	Output Current (A)	Package	Control Interface
BCM352x110y300B00	352V (330 – 365V)	11V (10.3 – 11.4V)	300	28.0	VIChip Full	Analog
BCM6123TD1E1368Tzz	384V (260 – 410V)	12V (8.1 – 12.8V)	800	68	6123 ChiP	Digital/Analog
BCM384x120y300Azz	384V (360 – 400V)	12V (11.3 – 12.5V)	300	27.7	VIChip Full	Analog
BCM6123TD1E13A3Tzz	384V (260 – 410V)	12V (8.1 – 12.8V)	1500	125.0	6123 ChiP	Digital/Analog
BCM4414xD1E13A3yzz	384V(260 – 410V)	12V (8.1 – 12.8V)	1500	125.0	4414 Chassis/PCB VIA	Digital
BCM352x125y300A00	352V (330 – 365V)	12.5V (11.79 – 13.04V)	300	26.0	VIChip Full	Analog
BCM6123TD1E2663Tzz	384V (260 – 410V)	24V (16.3 – 25.6V)	1500	62.5	6123 ChiP	Digital/Analog
BCM4414xD1E2663yzz	384V (260 – 410V)	24V (16.3 – 25.6V)	1500	62.5	4414 Chassis/PCB VIA	Digital
BCM352x440T330A00	352V (330 – 365V)	44V (41.25 – 45.63V)	325	7.7	VIChip Full	Analog
BCM384x480y325A00	384V (360 – 400V)	48V (45 – 50V)	325	7.0	VIChip Full	Analog
BCM6123TD1E5117Tzz	384V (260 – 410V)	48V(32.5 – 51.3V)	800	16.9	6123 ChiP	Digital/Analog
BCM6123TD1E5126Tzz	384V (260 – 410V)	48V(32.5 – 51.3V)	1200	25.7	6123 ChiP	Digital/Analog
BCM6123TD1E5135Tzz	384V (260 – 410V)	48V (32.5 – 51.3V)	1750	35.0	6123 ChiP	Digital/Analog
BCM4414xD1E5135yzz	384V (260 – 410V)	48V (32.5 – 51.3V)	1750	35.0	4414 Chassis/PCB VIA	Digital

### Features & Benefits

- 260 – 410V input (meets ETSI requirements)
- High peak efficiency: Up to 98%
- High power density: Up to 2,735W/in<sup>3</sup>
- Parallel inputs and outputs for high powered arrays
- Connect outputs in series for higher output voltages
- VI Chip Full
  - SMT or Through-hole form-factor
- ChiP Package
  - Through hole form-factor
  - PMBus<sup>™</sup>[1] capable (using Digital Isolator/Digital Supervisor)
- VIA Package
  - Available in chassis or PCB mount form-factor
  - Simplifies thermal design
  - Provides integrated filtering and voltage transient protection
  - Available with PMBus<sup>™</sup> Communication
- Bidirectional capability



## Typical Applications

