

Low Voltage

BCM[®] Bus Converter Module

Isolated, Fixed Ratio Bus Converter Family



For use in: 48V Intermediate Bus Architecture Power Systems, Telecom, High-end Computing, Automated Test Equipment, Industrial Systems, Communication and Transportation.

Description

Low Voltage Bus Converter Modules (LV BCMs) are 48V_{IN} 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 BCM output to provide the necessary regulated voltage for specific system loads. LV BCMs support a broad range of output voltages and power levels. With peak efficiencies of up to 97.6% and power densities of up to 2,870W/in³, Vicor's LV BCM product offers benchmark performance in a small, cost-effective package.

Utilizing Vicors resonant Sine Amplitude Converter (SAC) topology, 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 LV BCMs operate in reverse, they multiply the voltages up to 48V 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.

Features & Benefits

- 36 – 60V input
- High efficiency: Up to 97.6%
- High power density: Up to 2,870W/in³
- Parallel inputs and outputs for high powered arrays
- Connect outputs in series for higher output voltages
- VIA Package
 - Available in chassis or PCB mount form-factor
 - Simplifies thermal design
 - Provides integrated filtering
 - Available with PMBus[™]^[1] Communication
- Bidirectional capability



Part Numbers

Model Number	Input (V)	Output (V)	Output Power (W)	Output Current (A)	Package	Control Interface
BCM6123T60E10A5Txx	36 – 60	6 – 10	1500	150	6123 ChiP	Analog or Digital
BCM6123T60E15A3Txx	36 – 60	9 – 15	1950	130	6123 ChiP	Analog or Digital
BCM3814x60E10A5yzz	36 – 60	6 – 10	1500	150	3814 VIA	Digital
BCM3814x60E15A3yzz	36 – 60	9 – 15	1950	130	3814 VIA	Digital
BCM48Bx030x210A00	38 – 55	2.4 – 3.4	210	70	Full	Analog
BCM48Bx040x200B00	38 – 55	3.2 – 4.6	200	50	Full	Analog
BCM48Bx060x240A00	38 – 55	4.75 – 6.87	240	40	Full	Analog
BCM48Bx080x240A00	38 – 55	6.34 – 9.16	240	30	Full	Analog
BCM48Bx096x240A00	38 – 55	7.6 – 11.0	240	25	Full	Analog
BCM48Bx120x300A00	38 – 55	9.5 – 13.8	300	25	Full	Analog
BCM48Bx160x240A00	38 – 55	12.7 – 18.3	240	15	Full	Analog
BCM48Bx240x300A00	38 – 55	19 – 27.5	300	12	Full	Analog
BCM48Bx320x300A00	38 – 55	25.3 – 36.7	300	9	Full	Analog
BCM48Bx480x300A00	38 – 55	38.0 – 55	300	6	Full	Analog
BCM48BH120x120B00	38 – 55	9.5 – 13.75	120	11.3	Half	Analog

Typical Applications

