

VI Chip® BCM® Bus Converter Family

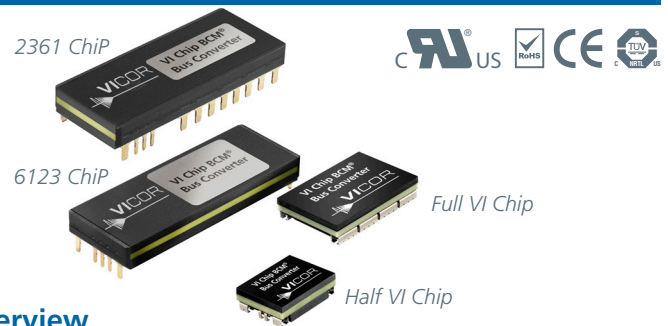
VICOR

Description

VI Chip Bus Converter Modules (BCMs) provide an isolated unregulated bus voltage to power Point-of-Load (PoL) converters. The BCMs provide a fixed ratio conversion from either a high input voltage (ranging from 230 – 410 V depending on the model) or a 48 V (38 – 55 V) input voltage to a broad range of output bus voltages. With peak efficiencies of up to 97.9% and power densities of up to 2,750 W/in³, VI Chip BCMs offer the most efficient and highest density, isolated power conversion available.

Utilizing Vicor's 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 the bulk capacitance requirement and offers savings of board area and system cost.

Offered in VI Chip full and half-sized packages, as well as the new 6123 and 2361 ChiP packages, BCMs deliver a range of power, size and efficiency to exceed most customer needs.



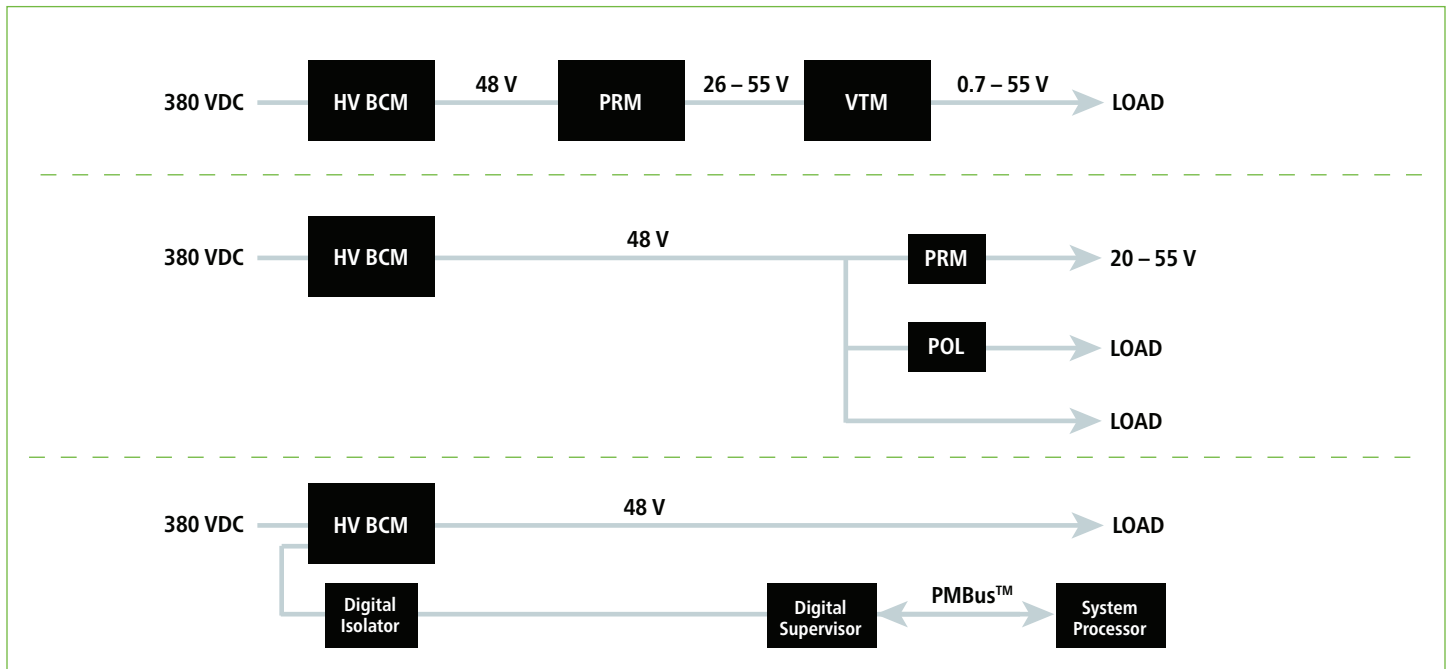
Overview

- **High Power Density:** Up to 2,750 W/in³ in a 2.2 in² footprint
- **Output Power**
6123: Up to 1.75 kW, 2361: Up to 1.5 kW
Full, Half: Up to 325 W
- **High Efficiency**
6123: 97.9%, 2361: 97.4%
Full, Half: 96%
- **Isolation**
Up to 4242 Vdc
- **Fast Response Time**
- **Low Noise**
- **Protection Features:** Undervoltage and overvoltage lockout, overcurrent protection, short circuit protection, over temperature protection
- **Simple Analog or Full Featured PMBus Control Interface**

Model Number	Input Voltage (V)	Output Voltage (V)	Output Power (W)	Output Current (A)	Package Type	Control Interface
BCM400P500x1K8A30	260 – 410	32.5 – 51.3	1,750	35.0	6123	Analog
BCM400P500x1K8A31	260 – 410	32.5 – 51.3	1,750	35.0	6123	PMBus*
BCM384P120x1K5AC0	260 – 410	8.1 – 12.8	1,500	125	2361	Analog
BCM384P120x1K5AC1	260 – 410	8.1 – 12.8	1,500	125	2361	PMBus*
BCM380P475x1K2A30	260 – 410	32.5 – 51.3	1,200	25.7	6123	Analog
BCM380P475x1K2A31	260 – 410	32.5 – 51.3	1,200	25.7	6123	PMBus*
BCM384P120x800AC0	260 – 410	8.1 – 12.8	800	68	2361	Analog
BCM384P120x800AC1	260 – 410	8.1 – 12.8	800	68	2361	PMBus*
BCM380P475x800A30	260 – 410	32.5 – 51.3	800	16	6123	Analog
BCM380P475x800A31	260 – 410	32.5 – 51.3	800	17.2	6123	PMBus*
BCM384x120T300A00	360 – 400	11.3 – 12.5	300	27.7	Full	Analog
BCM352x110T300B00	330 – 365	10.3 – 11.4	300	28.0	Full	Analog
BCM352x125x300A00	330 – 365	11.79 – 13.04	300	26.0	Full	Analog
BCM352x440T330A00	330 – 365	41.25 – 45.63	325	7.7	Full	Analog
BCM384x480T325A00	360 – 400	45.0 – 50.0	325	7.0	Full	Analog
MBCM270x338M235A00	240 – 330	30.0 – 40.25	235	7.3	Full	Analog
MBCM270x450M270A00	230 – 330	38.3 – 55.0	270	6.25	Full	Analog
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	7.60 – 11.0	240	25	Full	Analog
BCM48Bx120x300A00	38 – 55	9.50 – 13.8	300	25	Full	Analog
BCM48Bx160x240A00	38 – 55	12.7 – 18.3	240	15	Full	Analog
BCM48Bx240x300A00	38 – 53	19.0 – 27.5	300	12	Full	Analog
BCM48Bx320x300A00	38 – 55	25.3 – 36.7	300	9	Full	Analog
BCM48Bx480x300A00	38 – 55	38.0 – 55.0	300	6	Full	Analog
BCM48BH120x120B00	38 – 55	9.5 – 13.75	120	11.3	Half	Analog

*Require the use of D44TL1A0 digital supervisor and I13TL1A0 digital isolator

Typical Applications



*The PMBus name and logo are trademarks of SMIF, Inc.

Outline Drawings

