

MIL-COTS

High Voltage BCM[®] Bus Converter Module

Isolated, Fixed Ratio Bus Converter Family



For use in a broad range of defense-based IBA power systems that can run from 270V_{DC} MIL input voltage. Applications include airborne power, high density defense/aerospace power systems and defense/aerospace communications systems.

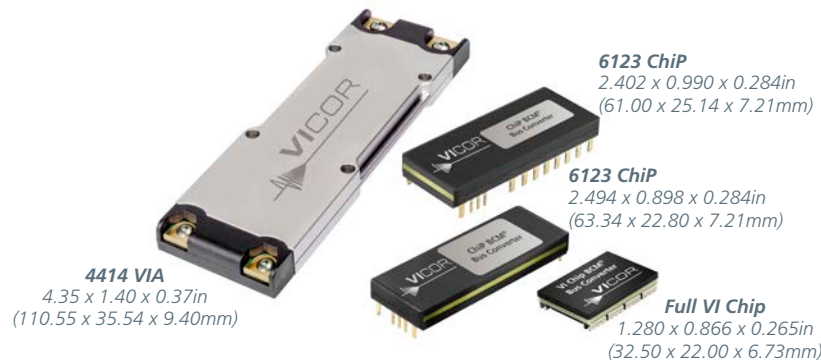
Description

The Vicor family of High Voltage BCMs are high efficiency and high-power density bus converters which provide an isolated intermediate bus voltage to power non-isolated point-of-load converters. Using the Vicor unique Sine Amplitude Converter™ topology with fixed high switching frequency and zero voltage and zero current soft switching, the MIL-COTS BCMs offer direct ratio-metric conversion from a 270V_{NOM} input to a range of DC outputs. With millions of hours of operation in the field, the BCM has a demonstrated ability to exceed the stringent reliability requirements needed in defense-based applications. High Voltage MIL-COTS BCM products provide power system engineers superior performance with benchmark efficiency and power density and eliminates constraints of size and height in a design with smaller, lighter and low profile packages.

These products are available in multiple package options including surface-mount and through-hole VI Chips, through-hole ChiPs and chassis or PCB mount VIAs that provides design flexibility and enables multiplicity of thermal design strategies.

Features & Benefits

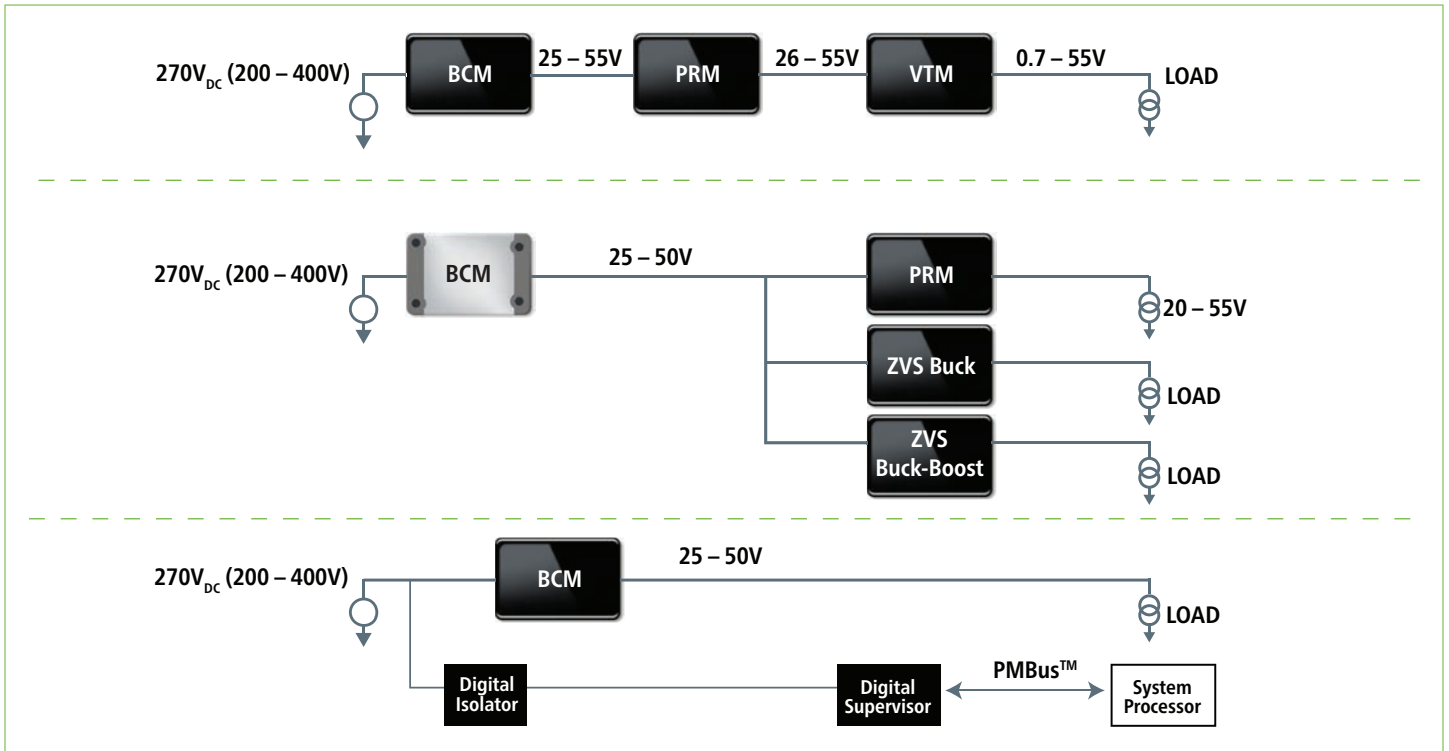
- High efficiency: Up to 98%
- High power density: Up to 2342W/in³
- Isolation:
 - VI Chips & ChiPs: 4242V_{DC}
 - VIAs: 2121V_{DC}
- Low AC impedance
 - Bulk capacitance elimination
- Thermally adept VIA and ChiP modules
 - Enables easy thermal design, possibly eliminating the need for a fan; Chassis mount version enables system chassis to be part of thermal design
- Integrated filtering to meet Class A or Class B EMI
 - Simplifies EMI and surge protection design, faster time to market
- Analog or Digital Control Interface
 - Digital PMBus™ communication allows control and telemetry capability within system design
- Array capable, modular power component
 - Simple modular solution enables 270V conversion to be implemented for multiple power levels
- Voltage, current and temperature protections



Part Numbers

Model Number	Input (V)	Output (V)	Output Current (A)	Package	Operating Temperature Range (°C)
MBCM270F338M235A00	240 – 330	30.0 – 41.25	7.3	Full VI Chip	–55 to 125
MBCM270F450M270A00	240 – 330	38.3 – 55	6.25	Full VI Chip	–55 to 125
BCM6123xD0G5030yzz	200 – 400	25 – 50	30	6123 ChiP	–55 to 125
BCM4414xD0G5030yzz	200 – 400	25 – 50	30	4414 VIA	–55 to 100

Typical Applications



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