



NBM™ Bus Converter

NBM2317S60D1565T0R



Non-Isolated, Fixed-Ratio Bidirectional DC-DC Converter

Features & Benefits

- 97.9% peak efficiency
- Bidirectional start up and steady-state operation
- Up to 6.4kW/in³ power density
- Maximum continuous output power: 800W
 - Up to 1kW, 2ms peak power capability
- Rated output current, step-down operation
 - 65A continuous
 - 100A transient, up to 2ms
- Rated output current, step-up operation
 - 16.25A continuous
 - 25A transient, up to 2ms
- Parallel operation for multi-kW arrays
- OV, OC, UV, short circuit and thermal shut down

Typical Applications

- DC Power Distribution
- High-Performance Computing Systems (HPC)
- Mild Hybrid and Autonomous Vehicles
- Automated Test Equipment (ATE)
- Industrial Systems
- High-Density Power Supplies
- Communications Systems
- Transportation
- Bidirectional DC Energy Storage

Product Ratings (Step-Down Operation)

$V_{HI} = 54V$ (40 – 60V)	$I_{LO} = \text{up to } 65A$
$V_{LO} = 13.5V$ (10 – 15V) (NO LOAD)	$K = 1/4$

Product Description

The NBM2317S60D1565T0R is a high-efficiency Non-Isolated Bus Converter operating from a 40 to 60V_{DC} high-side voltage bus to deliver a ratiometric low-side voltage from 10 to 15V_{DC}.

The NBM2317S60D1565T0R offers low noise, fast transient response, and industry-leading efficiency and power density. In addition, it provides an AC impedance beyond the bandwidth of most downstream regulators, allowing input capacitance normally located at the input of a PoL regulator to be located at the high side of the NBM. With a high-side to low-side K factor of 1/4, that capacitance value can be reduced by a factor of 16x, resulting in savings of board area, material and total system cost.

Leveraging the thermal and density benefits of Vicor SM-ChiP packaging technology, the NBM offers flexible thermal management options with very low top- and bottom-side thermal impedances. Thermally-adept SM-ChiP-based power components enable customers to achieve low-cost power system solutions with previously unattainable system size, weight and efficiency attributes quickly and predictably.

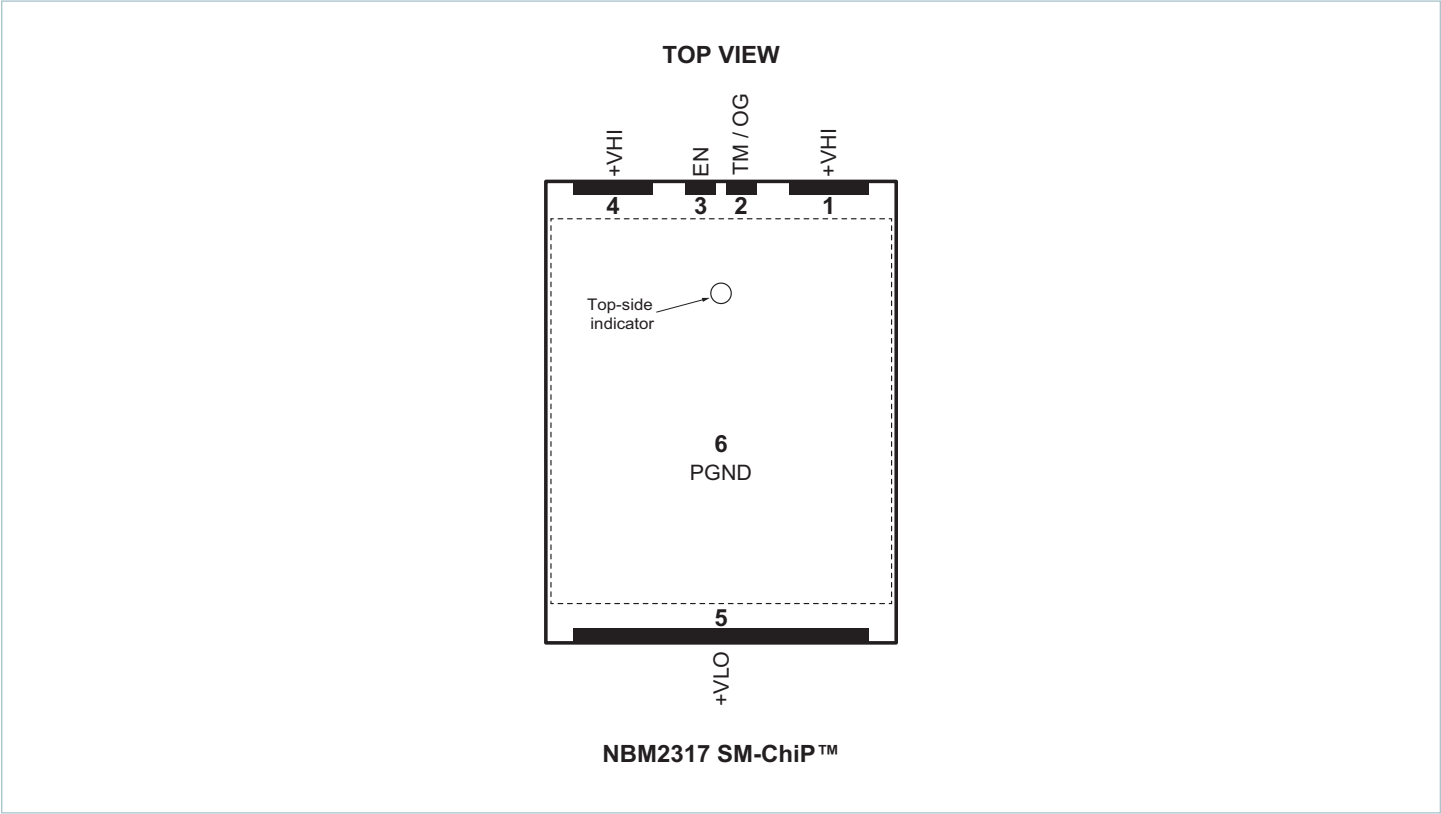
The NBM non-isolated topology allows bidirectional start up and steady-state operation and provides bidirectional fault detection and shut down.

Package Information

- Thermally-Adept SM-ChiP™
- 22.8 x 17.3 x 5.2mm
[0.90 x 0.68 x 0.20in]
- Weight: 8.7g

Note: Product images may not highlight current product markings.

Terminal Configuration



Terminal Descriptions

Terminal Number	Signal Name	Type	Function
1, 4	+VHI	HIGH SIDE POWER	High-side power positive terminals
2	TM / OG	OUTPUT	Temperature Monitor and Output Good
3	EN	INPUT	NBM enable/disable control
5	+VLO	LOW SIDE POWER	Low-side power positive terminal
6	PGND	POWER RETURN	Common negative high-side and low-side power return terminal

Vicor's comprehensive line of power solutions includes high density AC-DC and DC-DC modules and accessory components, fully configurable AC-DC and DC-DC power supplies, and complete custom power systems.

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Visit <http://www.vicorpower.com/NBM-Non-isolated-Bus-Converter-Module> for the latest product information.

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6,911,848; 6,930,893; 6,934,166; 7,145,786; 7,782,639; 8,427,269; 9,166,481; 9,516,761; 10,199,950; 10,205,381; 10,454,361; 10,594,223; 10,658,923; 10,951,113; and for use under 6,975,098 and 6,984,965.

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