VTM™ Current Multiplier

VTM48Mx010y105AG0

Sine Amplitude Converter™ (SAC™)

Features & Benefits

- 48 – 1V_{DC} 105A current multiplier
  - Operating from standard 48V or 24V PRM™ regulators
  - Up to 60 Volts DC input
  - K of 1/48 provides up to 105A DC output current
- High efficiency (>91%) reduces system power consumption
- High density (1674A/in^3)
- Vicor's 0823 ChiP™ package enables low impedance interconnect to system board
- Provides enable / disable control, internal temperature monitoring, internal current monitoring
- ZVS / ZCS resonant Sine Amplitude Converter topology
- Parallel up to 10 modules

Typical Applications

- Computing and Telecom Systems
  - Optimized for Memory and High Power ASICs
- Automated Test Equipment
- High Density Power Supplies
- Communications Systems

Product Ratings	
V_{IN} = 0 – 60V	I_{OUT} = 105A (nom)
V_{OUT} = 0 – 1.25V (no load)	K = 1/48

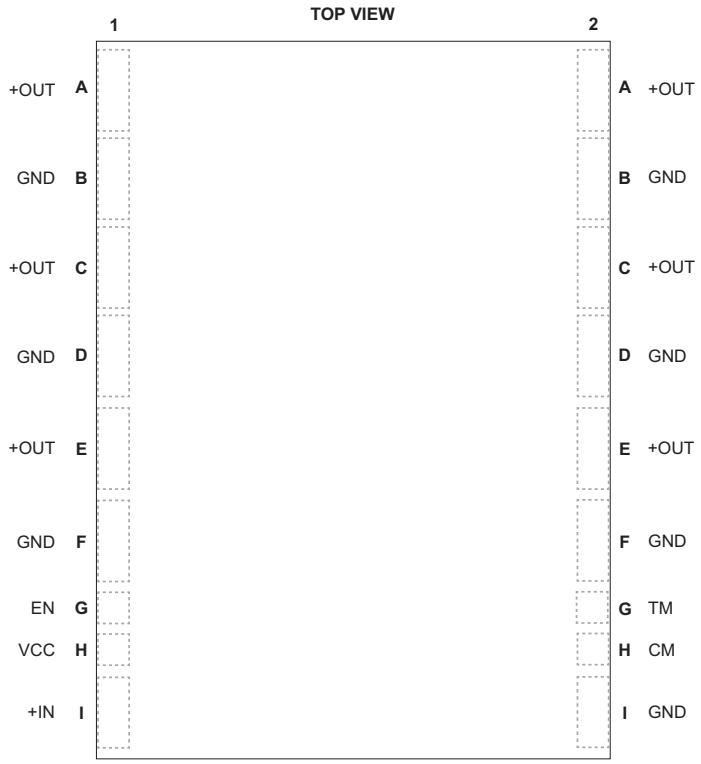
Product Description

Vicor's 0823 ChiP VTM current multiplier is a non-isolated high efficiency Sine Amplitude Converter™ (SAC™) designed to deliver low voltage output. The Sine Amplitude Converter offers a low AC impedance beyond the bandwidth of most downstream regulators; therefore capacitance normally at the load can be located at the input to the Sine Amplitude Converter. Capacitance at the input of the VTM is reflected to the output by a factor of $(1/K)^2$, resulting in savings of board area, materials and total system cost.

Vicor's ChiP packages are compatible with standard pick-and-place assembly processes. The co-molded ChiP package provides enhanced thermal management due to a large thermal interface area and superior thermal conductivity. The high conversion efficiency of the VTM increases overall system efficiency and lowers operating costs compared to conventional approaches.

When powered by a PRM, the VTM enables the utilization of Factorized Power Architecture™ which provides efficiency and size benefits by lowering conversion and distribution losses and promoting high density point of load conversion.

Pin Configuration



0823 ChiP Package

Pin Numbering and Descriptions

Signal Name	Pin Number	Type	Function
+OUT	A1, A2 C1, C2 E1, E2	OUTPUT POWER	Positive output terminal
GND	B1, B2 D1, D2 F1, F2, I2	POWER RETURN	Negative power terminal, internally connected
EN	G1	INPUT	To disable VTM in system
TM	G2	OUTPUT	Temperature monitor and Power Good Flag
VCC	H1	INPUT	Power train controller supply
CM	H2	OUTPUT	Current monitor
+IN	I1	INPUT POWER	Positive input 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/dc-dc/non-isolated-regulated/data-center-prm-and-vtm for the latest product information.

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