



## **Dual $\mu$ Module Regulator in 15mm x 9mm x 2.42mm BGA is Configurable as SEPIC (Buck-Boost) and Inverting**

MILPITAS, CA – September 21, 2016 – Linear Technology introduces the [LTM8049](#), a dual output, two-function DC/DC  $\mu$ Module<sup>®</sup> (power module) regulator in 15mm x 9mm x 2.42mm BGA package. One function is SEPIC (single-ended primary-inductor converter) in which the output voltage is regulated while the input voltage can vary to be less, equal or more than the value of the output voltage. The second function of the LTM8049 is an inverting conversion such that a positive input voltage is converted to a regulated negative output voltage. As a dual regulator, either output of the LTM8049 can be configured for a combination of SEPIC and/or inverting functions:

- (a) Output1: SEPIC, Output2: Inverting
- (b) Output1 & 2: SEPIC
- (c) Output1 & 2: Inverting

All that is needed to complete the design are input and output capacitors and few resistors, a total of 7 components compared to approximately 30 components needed to design a comparable discrete solution. PCB area for a solution using the LTM8049 is only 250mm<sup>2</sup>. Example applications include battery-powered portable test systems, motor drivers and power for operational amplifiers in instrumentation devices.

The LTM8049 operates from 2.6V to 20V input, and each of the two output voltages range from  $\pm 2.5V$  to  $\pm 24V$ . The output current is 1A at  $12V_{IN}$  to  $5V_{OUT}$ , and can be increased by operating the device in parallel. The operating frequency, set via a single external resistor, ranges from 200kHz to 2.5MHz. The LTM8049 can be synchronized by an external clock within the same frequency range. The LTM8049 is available in a 9mm x 15mm x 2.42mm BGA package.

The LTM8049 operating temperature range is  $-40^{\circ}C$  to  $125^{\circ}C$ . 1,000-piece pricing starts at \$14.20 each. For more information, visit [www.linear.com/product/LTM8049](http://www.linear.com/product/LTM8049).

## Photo Caption: Dual Output, SEPIC & Inverting $\mu$ Module Regulator


### Summary of Features: LTM8049

- Two Complete Switch Mode Power Supplies
- SEPIC or Inverting Topology
- Wide Input Voltage Range : 2.6V to 20V
- 2.5V to 24V or  $-2.5V$  to  $-24V$  Output Voltage
- Up to 1A at  $5V_{OUT}$  from  $12V_{IN}$
- Selectable Switching Frequency: 200kHz to 2.5MHz
- 15mm x 9mm x 2.42mm BGA Package

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

### About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs,  $\mu$ Module<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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