



## Surge Stopper Solution Eases MIL-STD-1275D Compliance

MILPITAS, CA – December 9, 2014 – Linear Technology Corporation announces the availability of a MIL-STD-1275D compliant surge stopper solution, demonstrated on evaluation board [DC2150A](#). MIL-STD-1275D is a standard created by the United States Department of Defense, specifying the steady state and transient voltage characteristics of a military ground vehicle's 28V DC power supply. When faced with the stringent surge, spike and ripple waveforms specified in MIL-STD-1275D, DC2150A limits the output voltage to a safe 44V. For most applications, satisfying the standard is as simple as placing the DC2150A circuit in front of a 44V tolerant device. DC2150A employs surge stopper ICs LTC4366 and LT4363, controlling series N-channel MOSFETs, reducing the solution size and cost compared to traditional shunt circuits utilizing bulky capacitors, fuses, inductors and transient voltage suppressors.

DC2150A is designed to withstand input transients up to  $\pm 250\text{V}$  and to provide a minimum of 4A current to the load in all conditions except the  $\pm 7\text{V}$  ripple condition when the available current is reduced to 2.8A. The N-channel MOSFETs are protected against output overloads by current limiting. Sustained overvoltage or overcurrent conditions turn off the circuit after a timer delay; the circuit turns on automatically after a cooldown cycle. Thermal protection circuitry turns off the LT4363 controlled MOSFET when its temperature exceeds  $105^{\circ}\text{C}$ .

DC2150A has four assembly options (DC2150A-A through DC2150A-D), depending on maximum load current and the ability to ride through the 500ms long 100V peak surge. Bill of materials (BOM) costs are reduced on the board options which eliminate unneeded protection features. Only the full-featured option, DC2150A-C, is available and priced at \$150.00 each. The solution is described in detail in *Linear Technology Journal of Analog Innovation*, Volume 24, Number 1, "High Voltage Surge Stoppers Ease MIL-STD-1275D Compliance by Replacing Bulky Passive Components." For a certification report and more information, visit [www.linear.com/demo/DC2150A](http://www.linear.com/demo/DC2150A)


**Photo Caption:** MIL-STD-1275D Surge Stopper DC2150A Clamps Output During Input Surge**Summary of Features: DC2150A**

- MIL-STD-1275D Compliant
- Certified by Third Party Test Laboratory
- Voltage Ratings:
  - 8V to 40V Input Operating Range
  - Rides Through 100V Peak, 500ms Long Input Surge
  - Survives  $\pm 250V$  Input Spikes
  - 44V Output Clamp Voltage
- Output Current Capability:
  - Up to 2.8A During  $\pm 7V$  Input Ripple
  - Up to 4A During All Other Conditions
- 105°C Thermal Protection

The USA list pricing shown is for budgetary use only. International prices 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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