

## Current-Sharing LDOs Double Current Capability For Harsh Environments

For applications in extreme environments that require higher output current, [Texas Instruments](#) has readied a new line of current-sharing low-dropout (LDO) linear regulators. Offering wide-input voltage range, the 3-A TPS7H1101-SP and the 0.5-A TPS7H1201-HT allow designers to use two devices in parallel for twice the output current. In addition, these new LDOs also offer excellent noise performance with minimal thermal dissipation and improved power efficiency for optimal system reliability. While the TPS7H1101-SP LDO is QML Class V-qualified up to 125°C for harsh environments such as high-reliability medical equipment, satellites and undersea cabling, the TPS7H1201-HT LDO is qualified up to 210°C for high-temperature applications such as down-hole drilling.

Combining two TPS7H1101-SP LDOs in parallel, the output can be up to 6 A, while two TPS7H1201-HT LDOs can deliver an output current of up to 1 A (Fig.1). According to TI, equal current sharing between the matching LDOs reduces stress on the components. Plus, it cuts time between failures by almost half. Designed to offer better thermal performance than competing solutions, the new ultra-low LDOs implement enhanced thermal packaging to minimize thermal temperature for higher reliability.

The new LDOs also offer enable on/off functionality, programmable softstart, and a power-good open-drain output. In addition, these devices also offer current foldback, overload, current limit and thermal protection to handle harsh environments. Furthermore, the LDOs feature a wide input voltage range of 1.5 V to 7 V, an ultra-low dropout of 75 mV at 1 A, and improved power supply and noise suppression. The parts are rated for output noise of only 17  $\mu$ Vrms, coupled with a high PSRR of 45 dB at 1 kHz. Both the current-sharing LDOs come in a 16-pin thermally enhanced ceramic flat pack (Fig.2).

The company also offers the TPS7H1101-SPEVM and the TPS7H1201-HTEVM evaluation modules (EVMs), allowing users to test LDO performance at different input and output voltages under various load conditions. For more information, see the [TPS7H1101-SP](#) and [TPS7H1201-HT](#) product pages.

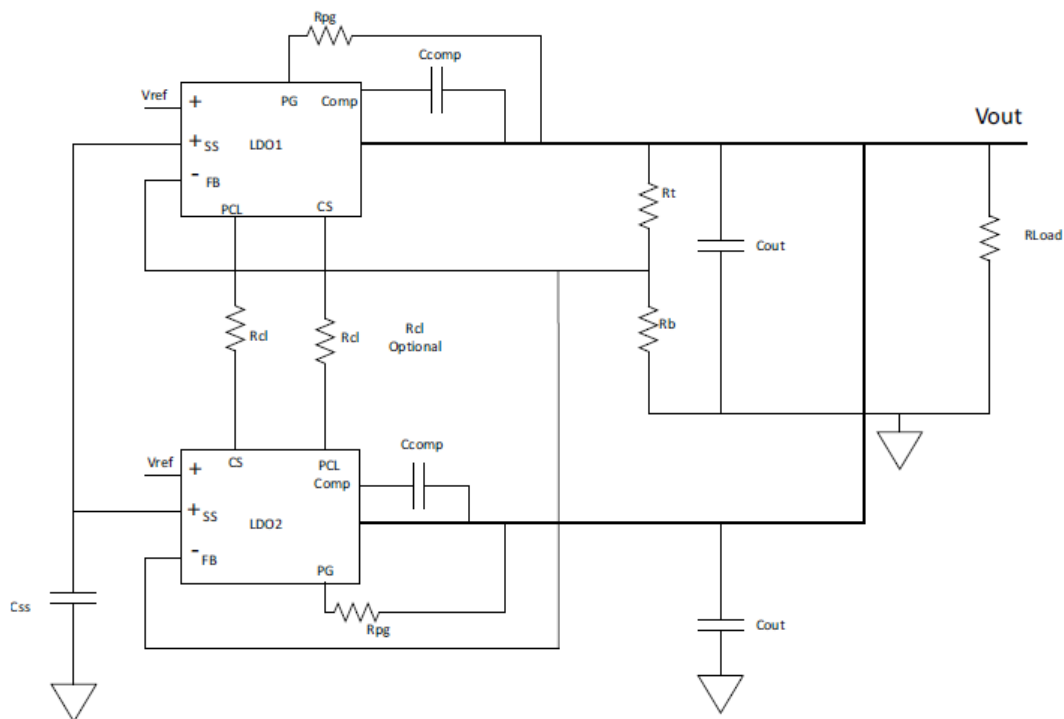


Fig.1. Rated for operation at temperatures as high 125°C and 210°C respectively, the 3-A TPS7H1101-SP and the 0.5-A TPS7H1201-HT are current-sharing LDOs that can each be paralleled to double their output current capability.

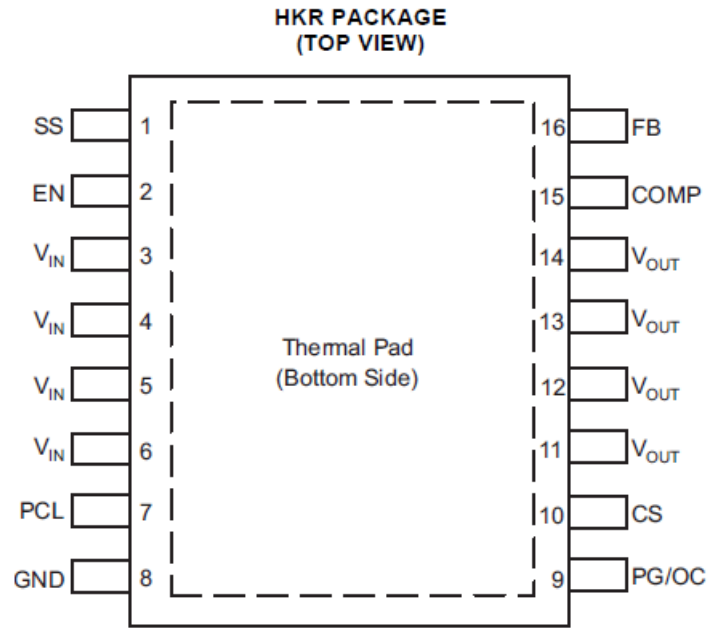


Fig.2. TI's current-sharing LDOs come in a thermally enhanced ceramic flat-pack (CFP).

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