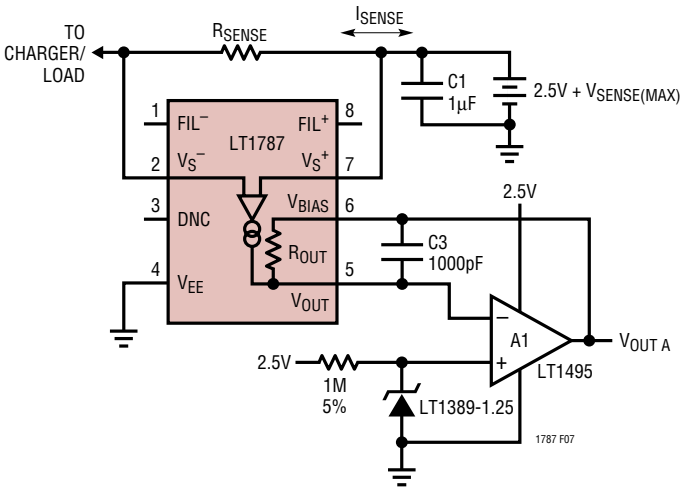
Low Voltage

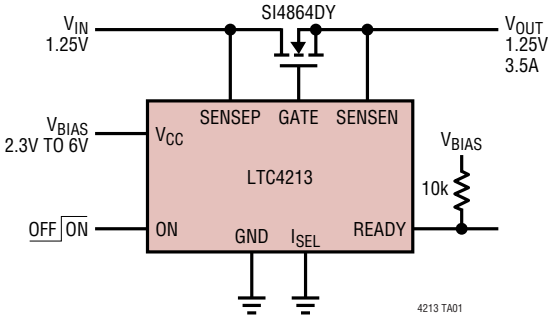
To see other chapters in this Application Note, return to the Introduction.

Single Supply 2.5V Bidirectional Operation with External Voltage Reference and I/V Converter



The LT1787's output is buffered by an LT1495 rail-to-rail op-amp configured as an I/V converter. This configuration is ideal for monitoring very low voltage supplies. The LT1787's V_{OUT} pin is held equal to the reference voltage appearing at the op amp's non-inverting input. This allows one to monitor supply voltages as low as 2.5V. The op-amp's output may swing from ground to its positive supply voltage. The low impedance output of the op amp may drive following circuitry more effectively than the high output impedance of the LT1787. The I/V converter configuration also works well with split supply voltages.

1.25V Electronic Circuit Breaker



The LTC4213 provides protection and automatic circuit breaker action by sensing Drain-to-Source voltage-drop across the NMOSFET. The sense inputs have a Rail-to-Rail common mode range, so the circuit breaker can protect bus voltages from 0V up to 6V. Logic signals flag a trip condition (with the READY output signal) and reinitialize the breaker (using the ON input). The ON input may also be used as a command in a "smart switch" application.