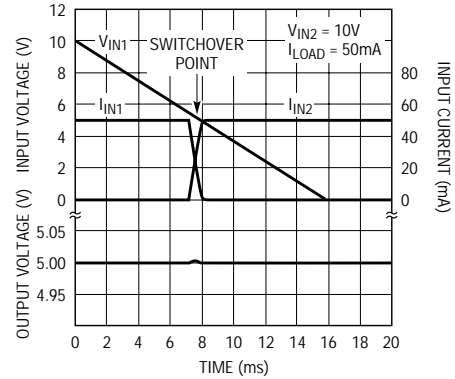
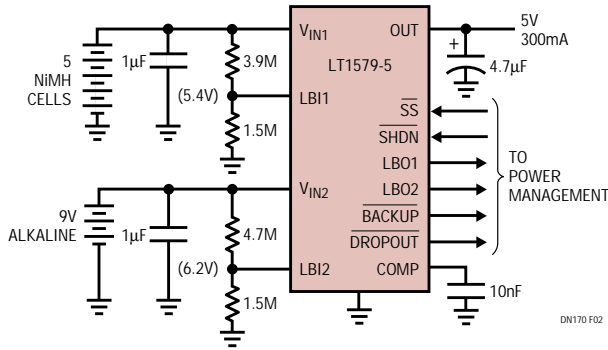


## Battery Backup Regulator is Glitch-Free and Low Dropout

Figure 2 shows a typical application of the **LT1579** with primary power supplied by five NiMH cells and backup provided by a 9V alkaline. The primary input ( $V_{IN1}$ ) is normally used to power the output, and the secondary input ( $V_{IN2}$ ) takes over as a backup when the primary source fails.  $\overline{\text{BACKUP}}$  goes low when  $V_{IN1}$  fails and  $V_{IN2}$  takes over, whereas  $\overline{\text{DROPOUT}}$  indicates that both  $V_{IN1}$  and  $V_{IN2}$  have failed; they report the condition of the primary and backup batteries to a microprocessor. The  $\overline{\text{BACKUP}}$  and  $\overline{\text{DROPOUT}}$  flags keep the microprocessor apprised of the regulator's status. Two comparators independently monitor the condition of the batteries.

9V snap terminals are easily reversed by the end user during installation of the battery. No harm is done to the **LT1579** because both inputs are reverse-battery protected. No current is drawn from the reversed battery and no excess current is drawn from the adjacent battery. Best of all, the load never knows the difference. The regulator continues to deliver the correct output voltage throughout the entire event.

A 9V Battery Backs Up Five NiMH Cells



Source: Design Note 170  
[www.linear-tech.com/pwrmgmt.html](http://www.linear-tech.com/pwrmgmt.html)