

If IC1 shuts down, or if load current plus charging current exceeds the capability of IC1, the R9 current reverses as current flows out of the battery. IC2 indicates the reversal by allowing R13 to pull its open-collector SIGN output high, turning off Q4 and turning on Q5. Current through R12 then produces a voltage proportional to the battery's discharge current (5A through R9 produces a full-scale response of 3V across R12).

By integrating this voltage over time (sampling at fixed intervals and multiplying by the time interval), the A/D-processor system can monitor energy removed from the battery. Based on this measurement and the terminal-voltage measurement, the processor can then re-initiate a fast charge (by asserting FAST-charge/TRICKLE CHARGE low) before the battery reaches its end of life.

A related idea appeared in the 6/8/95 issue of EDN.

MORE INFORMATION

MAX1771: [QuickView](#) -- [Full \(PDF\) Data Sheet \(1.6M\)](#)

-- [Free Sample](#)

MAX472: [QuickView](#) -- [Full \(PDF\) Data Sheet \(136k\)](#)

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