

TYPICAL APPLICATIONS

Full Featured 2A Charger Application

Figure 2 shows an application that utilizes the optional temperature sensing and optional externally programmable automatic recharge features. It also has LEDs to indicate charging status and the presence of sufficient input supply voltage.

The PROG pin has a total resistance of 691Ω to ground that programs the fast-charge current at the PNP's emitter to 2.02A (2A at the collector for beta of 100). The ARCT pin voltage is programmed to 1.25V. When the battery cell voltage falls below this automatic recharge will begin. Optional capacitor C_{BAT} filters excessive contact bounce. This circuit can be modified to charge a 4A-Hr battery at a C/2 rate simply by doubling the C_{TIMER} capacitance.

Power Path Control

Proper power path control is an important consideration when fast charging nickel cells. This control ensures the system load remains powered at all times, but that normal system operation and associated load transients do not adversely affect the charging procedure. Figure 3 illustrates a 1A charger with power path control. When V_{IN} is applied the forward biased Schottky diode will power the load while the P-channel FET will disconnect the battery from the load. When V_{IN} is removed, the FET will turn-on to provide a low loss switch from the battery to the load, and the diode will isolate V_{IN} . The \overline{ACP} output signals the presense of V_{IN} .

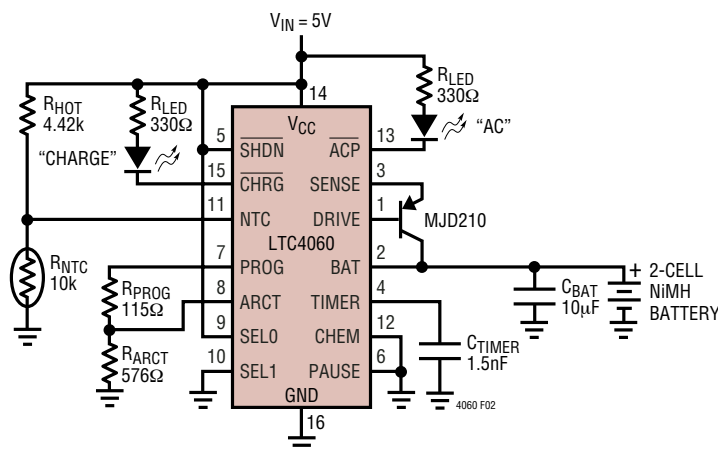


Figure 2. Full Featured 2A Charger Application

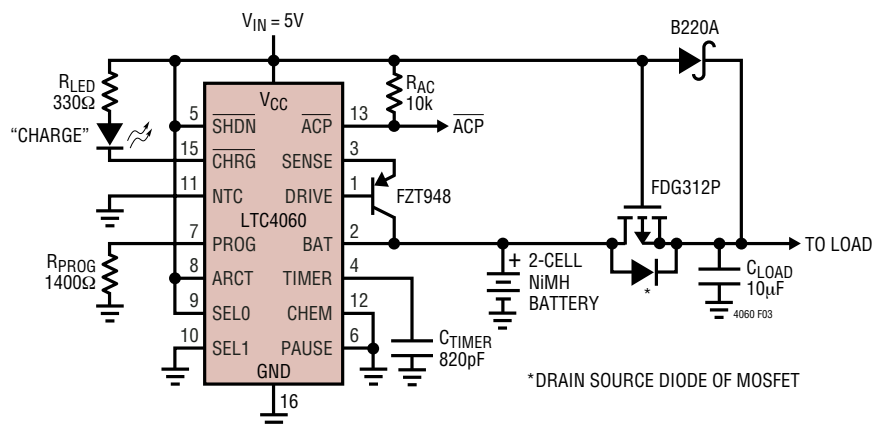


Figure 3. 1A Charger Application with Power Path Control