

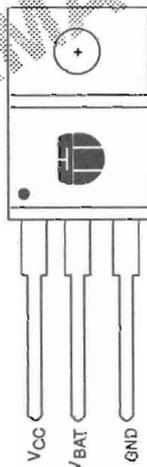
DALLAS SEMICONDUCTOR

DS1633x High Speed Battery Recharger

FEATURES

- Recharges lithium batteries and NiCad batteries
- Cuts in half normal battery charge time
- Accepts open circuit power supply voltages between 4.75 and 6.0 V, and battery voltages between 0 and 3.75 V
- Retains battery and power supply limits in on-board memory
- Part is programmed and tested in the factory
- 3-pin TO-220 package
- Operating range -10°C to 85°C
- Applications include consumer electronics, portable/cellular phones, pagers, medical instruments, backup memory systems, security systems
- Supplies a maximum of 100 mA to a charging battery, as DC or pulsed charging current

PIN ASSIGNMENT (DIP PKG)



PIN DESCRIPTION

V _{CC}	Input Voltage, +
V _{BAT}	Battery Voltage Input, +
GND	Ground

DESCRIPTION

The DS1633 High Speed Battery Recharger automatically provides a constant current recharge to a battery as long as the battery's voltage is below the specified minimum voltage. The DS1633 charges the battery using its V_{CC} input as a source. When V_{CC} is floated, the DS1633 is dormant. When V_{CC} is reapplied, the DS1633 begins charging.

Although a variety of load curves may be used to charge a battery, most do not take advantage of the fact that a battery can accept its maximum (or above) current rating for charging purposes over its entire voltage range. The DS1633 takes advantage of this opportunity by constantly readjusting its current supply to the battery

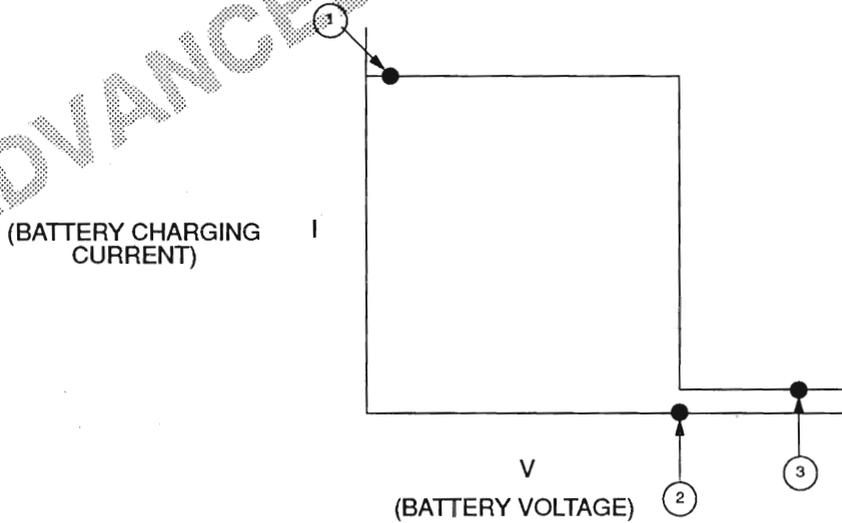
being charged. As the voltage level of the battery being charged rises, and the supply current drops, the DS1633 adjusts itself to boost the current supply back to its maximum. This feature greatly decreases the recharge time required to fully charge a lithium or NiCad cell.

The DS1633 provides a designer with the ability to use a customized battery load line for currents up to 100 mA by selecting a pre-programmed DS1633 from Dallas Semiconductor. A DS1633 solution provides a self-contained charging system which requires no backup memory support, user programming, or external interface circuitry.

The Profile Characteristics table lists charge curves and part reference designators for the pre-programmed curves that Dallas Semiconductor will initially offer.

For requirements which cannot be met by one of the initial charge curve programs listed, please contact the nearest Dallas Semiconductor Sales Office.

PROFILE CHARACTERISTICS					
DS1633 CHARGE PROFILE	(1) MAXIMUM CURRENT	(1A) MAXIMUM CURRENT FREQUENCY	(2) CUTOFF VOLTAGE	(3) TRICKLE CURRENT	(3A) TRICKLE FREQUENCY
1633A	100 mA	DC	3.6V	17 mA	1/8 sec. pulse/1 sec.
1633B	80 mA	DC	3.6V	9 mA	1/8 sec. pulse/1 sec.
1633C	60 mA	DC	3.6V	7 mA	1/8 sec. pulse/1 sec.
1633D	40 mA	DC	3.6V	5 mA	1/8 sec. pulse/1 sec.
1633E	20 mA	DC	3.6V	5 mA	1/8 sec. pulse/1 sec.



TYPICAL APPLICATION

