

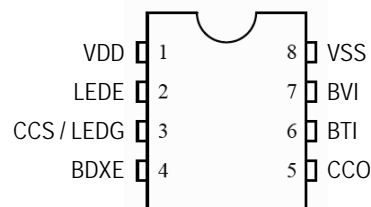
FEATURES

- **Parametric design adopts per cell fashion**
 - ◇ Intended for 1 CmA rapid charge.
 - ◇ Suitable for single or multiple Ni-Cd / Ni-MH battery cells stacked.
 - ◇ Optimized for 'AAA', 'AA', '4/3AA', 'A', 'C', 'SC', and 'D' sized cells.
- **Logic Design supports charger for Loose Cells and Power Pack Assembly**
- **Constant Current scheme**
Pulse Width Modulation output manages constant-current scheme throughout the charge operation. Current rating is programmable by external resistors.
- **-ΔV Detection**
 - ◇ Detect typical at -9 mV/cell.
 - ◇ Filter rejects 50 / 60 Hz harmonics accomplished by 16 samples within 20 msec.
 - ◇ 10 minutes inhibit period at the beginning of Rapid Charge to prevent from pseudo -ΔV detection.
- **dT/dt Detection**
 - ◇ Incorporate with 5 ~ 20 KΩ 1% NTC thermistor with B_{25/85} at 3435K ±1%
 - ◇ Detect typical at 1.75 °C per minute.
- **Battery Discriminator**
Battery Discriminator avoids primary Zinc-Carbon / Alkaline batteries and impaired Ni-Cd or Ni-MH cells from undergoing rapid-charge.
- **Ni-Cd/Ni-MH Batteries Friendly**
 - ◇ Rapid Charge commences only when all of the conditions below are satisfied:
 1. Cell temperature lies between 0 °C to 40 °C
 2. Cell voltage does not exceed 1.65 V.
 3. Allow cell restoration at 1 V or above.
 - ◇ Soft Start by increasing charging current gradually.
- **Battery Restoration**
Let deep-discharged batteries restore to 1.0V per cell before rapid-charge to ensure battery capacity and life.
- **Top-off Charge**
Ensure full capacity charged after rapid-charge.
- **Thermal Protection**
Switch to trickle charge when battery temperature exceeds 55.0 °C.
- **Charge Termination Timer**
A 90 minutes termination timer is implemented to protect batteries from over-charged. Switches over to trickle charge when it is time-out.
- **Direct drive capable bi-color LED outputs**
Support bi-color common cathode LED up to 8 mA each for informative status display.
 - ◇ LED stays red while charge operation is in progress.
 - ◇ LED turns green when battery is done.
 - ◇ LED blinks red at 4 times a second when error detected.
 - ◇ LED stays blank while it is standby.
- **Brown-Out Reset**
System will be forced to Reset State when V_{DD} drops to 2.2 V or less. Charger output is inhibited at Reset State.
- **Built-in oscillation**
Internal oscillation generates 8.0 MHz system clock and requires no external component.
- 3.0 V ± 5% Operating Voltage.
- 3 mW Power Consumption
- -40 °C to 85 °C Operating Temperature.
- 8-Pin PDIP / SOIC / TSSOP package available.

APPLICATIONS

- ❖ **Standalone Loose Cells Rapid Charger** for 'AA' / 'AAA' Ni-MH rechargeable batteries.
- ❖ **Standalone Rapid Charger** for Power Tools, Digital Camera, Camcorders, PDA, Coreless Phones, Mobile Phones, Personal Health Care Devices, Field Equipments and Radio Remote Toys
- ❖ **System Embedded Charger** for Cordless Appliances, Radios, Torches & Lanterns, Shavers, Aqua Air Pumps, Massagers and Robots / Humanoid.

OVERVIEW



8-Pin DIP / SOIC / TSSOP