



Analog, Mixed Signal and Power Management

# MC34674

## Industry's most flexible battery charger solution

### Applications

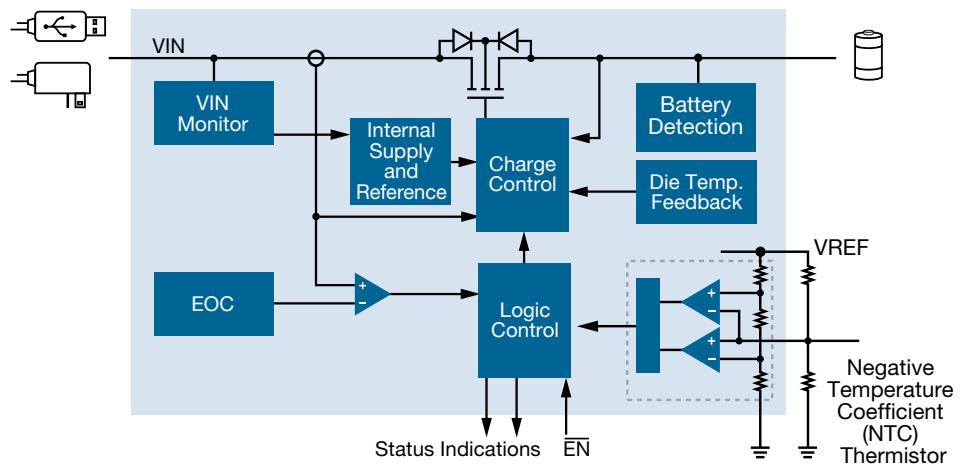
- Any single-cell Li-ion or Li-polymer battery-powered, handheld, portable device
- Cradle chargers
- Travel chargers
- Digital still cameras

### Overview

Battery-powered portable electronic devices need to be recharged for continued use and portability. Freescale's battery charger integrated circuits (ICs) family offers significant advantages and flexibility in battery charging applications. Factory-programmable parameters allow customers to choose desired specifications such as pin-out, feature set and charging parameters. The IC is then customized by Freescale via a digital interface before shipping.

The MC34674 is a single input autonomous battery charger IC capable of delivering up to 1.05A of charge current to a single-cell Li-ion battery. The battery charger input voltage can come from an AC adapter or a USB port power source. The high input voltage, up to 28V, eliminates the need for the external input overvoltage protection circuit required in handheld devices.

### MC34674 Single Input Charger Internal Block Diagram



Important features of the MC34674 battery charger IC include a 28V input with overvoltage protection, overcurrent protection and thermal fold back with up to +/-0.4% voltage accuracy, helping increase battery lifetime and enabling full charge. Freescale's battery charger ICs are rich in features and are extremely flexible to meet the needs of a

wide variety of applications. All functions fit into a compact 8-lead 2 mm x 3 mm x 0.65 mm ultra thin dual flat no-lead (UDFN) thermally enhanced package.

## Features

- +/-0.4% voltage accuracy over -20°C to +70°C and +/-0.2% at room temperature
- 28V maximum input voltage rating (11V OVP)
- Capable of delivering up to 1.05A of programmable charge current
- Factory-programmable CC current
- External FETs, blocking diodes and current sense resistors are not required
- Trickle charge for fully discharged batteries
- Low-profile, compact 2 x 3 x 0.65 mm UDFN thermally enhanced package

## Benefits

- Industry's most flexible Li-ion battery charger solution
- Complete charger for single-cell Li-ion batteries
- Feature-rich and easily modified to meet the needs of a wide variety of applications
- +/-0.4% output voltage accuracy over -20°C to +70°C (+/-0.2% at room temperature)
- +/-8% charge current accuracy over -40°C to +85°C
- Factory configurable parameters allow faster time to market and lower system cost
- Flexible LED indication pattern
- Meets AC adapter standard YD/T1591-2006 in the Chinese cell phone market
- Low external component count

## Parametric Table

Part Number	Max Input Voltage Range	Output Current	Temperature Range	Package
MC34674AEP	28V	1.05A	-40°C to +85°C	2 x 3 UDFN
MC34674BEP	28V	850mA	-40°C to +85°C	2 x 3 UDFN
MC34674CEP	28V	650mA	-40°C to +85°C	2 x 3 UDFN
MC34674DEP	28V	450mA	-40°C to +85°C	2 x 3 UDFN

## Development Tools

Part Number	Description
KIT34674EPEVBE	Evaluation board to demonstrate the key features of MC34674

## Documentation

Freescale Document Number	Title	Description
MC34674	Data Sheet	Presents the specifications for this product
SG1002	Selector Guide	Analog and power management device comparison

Freescale Semiconductor is a leading provider for over 25 years of high-performance products that use SMARTMOS™ technology that combines digital, power and standard analog functions. The company supplies analog and power management ICs for the automotive, consumer, networking and industrial markets. Freescale's analog and power ICs complement our broad portfolio of microcontrollers, microprocessors, ZigBee® technology, digital signal processors, sensors and development tools. Freescale offers superior support for system solutions to help customers.

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