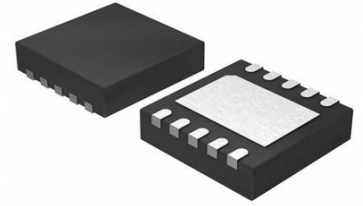


## Battery Charger Controller Li-Ion/Li-Pol 1000mA 4.2V 10-Pin WSON EP T/R



Images are for reference only

[Inquiry](#)

**Manufacturer:** [Texas Instruments, Inc](#)

**Package/Case:** WSON-10

**Product Type:** Power Management ICs

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

The LM3658 is a single chip charger IC designed for handheld applications. It can safely charge and maintain a single cell Li-Ion/Polymer battery operating from an AC wall adapter or USB power source. Input power source selection of USB/AC is automatic. With both power sources present, the AC power source has priority. Charge current is programmed through an external resistor when operating from an AC wall adapter allowing charge currents from 50 mA to 1000 mA. When the battery is charged using USB power, charge currents of 100 mA or 500 mA are pin-selectable. The termination voltage is controlled to within  $\pm 0.35\%$  of 4.2V.

The LM3658 requires few external components and integrates internal power FETs, reverse current protection and current sensing. The internal power FETs are thermally regulated to obtain the most efficient charging rate for a given ambient temperature.

The LM3658 operates in five modes: pre-qualification mode, constant-current mode, constant-voltage mode, top-off mode and maintenance mode.

Additionally, the charger IC operates as a linear regulator in "LDO mode", when the AC wall adapter is connected and no battery is present. Optimal battery management is obtained through thermal regulation, battery temperature measurement and multiple safety timers. The LM3658 provides two open-drain outputs for LED status indication or connection to GPIOs.

## Key Features

Integrated power FETs with thermal regulation

Charges from either an AC wall adapter or USB power source with automatic source selection

50 mA to 1000 mA charge currents using AC wall adapter

Pin-selectable USB charge currents of 100 mA or 500 mA

LDO mode with 1A of source current is automatically invoked when the battery is absent and the AC wall adapter is connected

Continuous battery temperature monitoring

Built-in multiple safety timers

Charge status indication

Continuous over-current and temperature protection

Near-depleted battery pre-conditioning

Sleep mode with ultra low quiescent current

On-board Kelvin-sensing achieves  $\pm 0.35\%$  termination accuracy

Maintenance mode with automatic recharge

Thermally enhanced 3 mm x 3 mm LLP package

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## Recommended For You

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### LM2637M

Texas Instruments, Inc

SOP24

### LM5116MH

Texas Instruments, Inc

TSSOP20

### LM234Z-3

Texas Instruments, Inc

TO-92

### LM27761DSGR

Texas Instruments, Inc

WSO8

### LM74700QDBVRQ1

Texas Instruments, Inc

SOT23-6

### LM2991S

Texas Instruments, Inc

TO-263

**LM74800QDRRRQ1**

Texas Instruments, Inc  
WSO-N-12

**LMR14030SDDAR**

Texas Instruments, Inc  
SOP8

**LM2940CT-12**

Texas Instruments, Inc  
TO-220

**LM536035QPWPTQ1**

Texas Instruments, Inc  
HTSSOP-16

**LM5575MH**

Texas Instruments, Inc  
TSSOP16

**LM536013QDSXTQ1**

Texas Instruments, Inc  
WSO-N-10

**LM5160QPWPRQ1**

Texas Instruments, Inc  
HTSSOP14

**LM5576MH**

Texas Instruments, Inc  
TSSOP20

**LMQ61460AFSQRJRRQ1**

Texas Instruments, Inc  
VQFN-14