

**Linear Battery Charger Li-Ion/Li-Pol 1000mA 4.35V 10-Pin  
WSON EP T/R**



Images are for reference only

[Inquiry](#)

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

**Package/Case:** WSON10

**Product Type:** Power Management ICs

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

The bq2404x series of devices are highly integrated Li-Ion and Li-Pol linear chargers devices targeted at space-limited portable applications. The devices operate from either a USB port or AC adapter. The high input voltage range with input overvoltage protection supports low-cost unregulated adapters. The bq2404x has a single power output that charges the battery. A system load can be placed in parallel with the battery as long as the average system load does not keep the battery from charging fully during the 10 hour safety timer.

The battery is charged in three phases: conditioning, constant current and constant voltage. In all charge phases, an internal control loop monitors the IC junction temperature and reduces the charge current if an internal temperature threshold is exceeded.

The charger power stage and charge current sense functions are fully integrated. The charger function has high accuracy current and voltage regulation loops, charge status display, and charge termination. The pre-charge current and termination current threshold are programmed via an external resistor on the bq24040 and bq24045. The fast charge current value is also programmable via an external resistor.

## Key Features

### Charging

1% Charge Voltage Accuracy

10% Charge Current Accuracy

Pin Selectable USB 100mA and 500mA Maximum Input Current Limit

Programmable Termination and Precharge Threshold, bq24040 and bq24045

High voltage (4.35V) Chemistry Support with bq24045

### Protection

30V Input Rating; with 6.6V or 7.1V Input Overvoltage Protection

Input Voltage Dynamic Power Management

125°C Thermal Regulation; 150°C Thermal Shutdown Protection

OUT Short-Circuit Protection and ISET short detection

Operation over JEITA Range via Battery NTC – 1/2 Fast-Charge-Current at Cold, 4.06Vat Hot, bq24040 and bq24045

Fixed 10 Hour Safety Timer, bq24040 and bq24045

### System

Automatic Termination and Timer Disable Mode (TTDM) for Absent Battery Pack With Thermistor, bq24040 and bq24045

Status Indication – Charging/Done

Available in Small 2×2mm<sup>2</sup> DFN-10 Package

Integrated Auto Start Function for Production Line Testing, bq24041

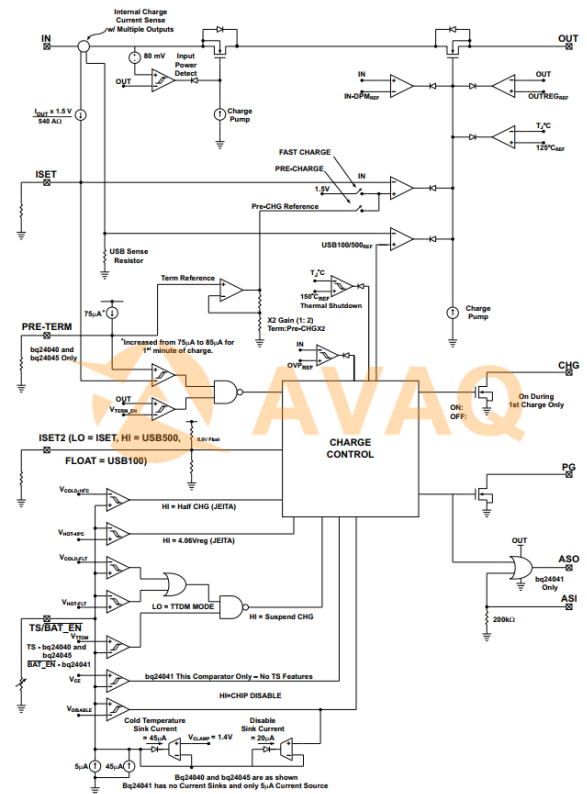
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## Recommended For You

### BQ51013BRHLR

Texas Instruments, Inc  
VQFN20

### BQ51050BRHLT

Texas Instruments, Inc  
QFN

### BQ51050BRHLR

Texas Instruments, Inc  
VQFN-20

### BQ24725ARGRT

Texas Instruments, Inc  
QFN

### BQ7693000DBT

Texas Instruments, Inc  
TSSOP30

### BQ25896RTWT

Texas Instruments, Inc  
QFN24

### TL432BQDBZR

Texas Instruments, Inc  
SOT23-3

### BQ2050HSN-A508

Texas Instruments, Inc  
SOP16

### BQ24192RGER

Texas Instruments, Inc  
VQFN24

### BQ2000SN-B5

Texas Instruments, Inc  
SOP8

### BQ24105RHLR

Texas Instruments, Inc  
VQFN20

### BQ24190RGER

Texas Instruments, Inc  
VQFN24

### BQ24010DRCR

Texas Instruments, Inc  
QFN

### TPS54360BQDDAQ1

Texas Instruments, Inc  
SOP-8

### TLV431BQDBZRQ1

Texas Instruments, Inc  
SOT23