

Switching Battery Charger Controller Li-Ion/Li-Pol 8000mA 1.024V to 19.2V 20-Pin VQFN EP T/R



Images are for reference only

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: QFN

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The bq24725A is a high-efficiency, synchronous battery charger, offering low component count for space-constrained, multi-chemistry battery charging applications.

The bq24725A utilizes two charge pumps to separately drive n-channel MOSFETs (ACFET, RBFET and BATFET) for automatic system power source selection.

SMBus controlled input current, charge current, and charge voltage DACs allow for very high regulation accuracies that can be easily programmed by the system power management micro-controller.

The bq24725A uses internal input current register or external ILIM pin to throttle down PWM modulation to reduce the charge current.

The bq24725A charges one, two, three or four series Li+ cells.

Key Features

SMBus Host-controlled NMOS-NMOS synchronous buck converter with programmable 615kHz, 750kHz, and 885kHz switching frequencies

Automatic N-channel MOSFET selection of system power source from adapter or battery driven by internal charge pumps

Enhanced safety features for over voltage protection, over current protection, battery, inductor and MOSFET short circuit protection

Programmable input current, charge voltage, charge current limits

±0.5% Charge voltage accuracy up to 19.2V

±3% Charge current accuracy up to 8.128A

±3% Input current accuracy up to 8.064A

±2% 20x Adapter current or charge current amplifier output accuracy

Programmable battery depletion threshold, and battery LEARN function

Programmable adapter detection and indicator

Integrated soft start

Integrated loop compensation

Real time system control on ILIM pin to limit charge current

AC Adapter operating range 4.5V-24V

5µA Off-state battery discharge current

0.65mA (0.8mA max) Adapter standby quiescent current

20-pin 3.5 x 3.5 mm² VQFN Package

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Recommended For You

BQ51013BRHLR

Texas Instruments, Inc
VQFN20

BQ51050BRHLT

Texas Instruments, Inc
QFN

BQ51050BRHLR

Texas Instruments, Inc
VQFN-20

BQ24045DSQR

Texas Instruments, Inc
WSON10

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

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SOT23