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1 to 2s I2C Li-Ion Battery Pack Manager Reference Design

(ACTIVE) TIDA-00895

Description & Features

 Technical Documents **Support & Training** **Order Now**

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Key Document

 • [TIDA-00895 Test Results](#) (PDF 137 KB)
03 Feb 2016 280 views

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TIDA-00895 1 to 2s I2C Li-Ion Battery Pack Manager Reference Design
Board Image

Description

The Texas Instruments bq28z610 device is a Battery Pack Manager that integrates gas gauging, and protection for complete autonomous operation of 1-series to 2-series cell Li-Ion and Li-Polymer battery packs. The architecture enables communication between the fuel gauging processor and an internal battery charger controller through I2C broadcast commands. This reference design eases the design process for the customer given that it is a complete pack solution which includes gauging and protection of the Li-Ion battery. It includes an over-voltage IC for additional safety protection.

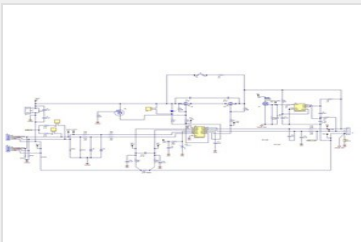
Features

- Fully Integrated gauge, protector to support 1 to 2-Series Li-Ion or Li-Polymer cells
- 2nd Level Protector provides Over Voltage Protection
- Impedance Track Technology
- Integrated SHA-1 Authentication
- This circuit design is tested and includes orderable EVM, User's Guide, and evaluation software

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Schematic/Block Diagram

Quickly understand overall system functionality.

 [Download Schematic](#)

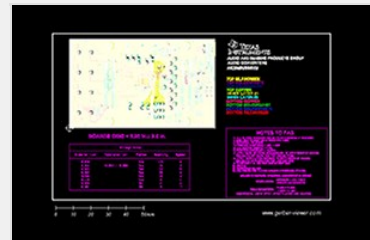
Design Guide

Get results faster with test and simulation data that's been verified.

 [Download Design Guide](#)

Design Files

Download ready-to-use system files to speed your design process. [Get Viewer.](#)



Bill of Materials (BOM)

Find the complete list of components in this reference design.



Download BOM

Order Now

Part Number	Buy from Texas Instruments or Third Party	Buy from Authorized Distributor	Status
BQ28Z610EVM-532: Bq28z610 EVM 1-Cell to 2-Cell Programmable Battery Manager Evaluation Module	(USD) In Stock Typically Ships in 1 to 3 Business Days	Pricing may vary.	ACTIVE

In Stock
Typically Ships in 1 to 3 Business Days
Buy from TI

Buy from distributor

Contact a Distributor - Select a location - Go

TI Devices (3)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number ↕	Name ↕	Product Family ↕	Sample & Buy	Design Kits & Evaluation Modules
BQ28Z610	Battery Fuel Gauge with Integrated Protector for 1-2 Series Packs	Battery Management Products	Sample & Buy	View Design Kits & Evaluation Modules
BQ294502	Overvoltage Protection Device for 2- to 3-Cell Li-Ion Batteries, with 4.35v OVP	Battery Management Products	Sample & Buy	View Design Kits & Evaluation Modules
CSD16412Q5A	N-Channel NexFET™ Power MOSFET	Power MOSFET	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package Pins	CAD File (.bxl)	STEP Model (.stp)
BQ28Z610	 VSON (DRZ) 12	Download	-
BQ294502	 WSON (DRV) 6	Download	Download
CSD16412Q5A	VSONP (DQJ) 8	Download	Download

Texas Instruments and Accelerated Designs, Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the [free download](#).

Step 2: Download the Symbol and Footprint from the CAD.bxl file table.

- [read more](#) -

Technical Documents

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User guides (2)

Title ↕	Abstract ↕	Type ↕	Size (KB) ↕	Date ▼	Views ↕	TI Recommends ↕
 TIDA-00895 Test Results		PDF	137	03 Feb 2016	280	✓
 bq28z610EVM 1- to 2-Series Li-ion Battery Pack Manager Evaluation Module		PDF	1171	04 Dec 2015	876	

Design files (6)

Title ↕	Abstract ↕	Type ↕	Size (KB) ↕	Date ▼	Views ↕
TIDA-00895 Hardware Design File		ZIP	438	03 Feb 2016	75
TIDA-00895 CAD Files		ZIP	1250	03 Feb 2016	44
 TIDA-00895 PCB		PDF	582	03 Feb 2016	40
 TIDA-00895 Assembly Drawing		PDF	199	03 Feb 2016	35
 TIDA-00895 BOM		PDF	206	03 Feb 2016	59
 TIDA-00895 Schematic		PDF	221	03 Feb 2016	320

Applications

- [Appliances Battery Packs](#)
- [Barcode Scanner](#)
- [Blood Glucose Monitors](#)
- [Infusion Pumps](#)
- [Notebook PC](#)
- [Tablet: Multimedia](#)
- [Wearable Fitness & Activity Monitor](#)
- [Wireless \(Bluetooth\) Speaker](#)

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