iPad Automotive Charger Reference Design

(ACTIVE) TIDA-IPAD-AUTOMOTIVE-CHARGER-REFERENCE-DESIGN

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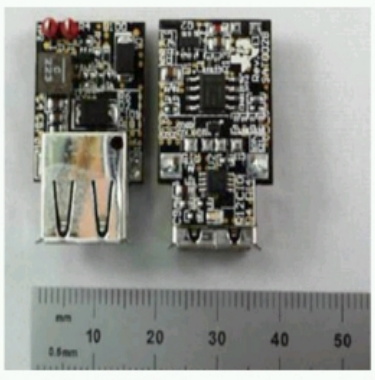
Description

The reference design provides customers an extremely small form factor but still compliant to the iPad charge current requirement of up to 2.1A at 5V. The switching buck, TPS54340, features switching frequency that is up to 2MHz which is above the audio band requirements. Customers can leverage the small form factor of this reference design and can provide USB charging capability at multiple space-constraint locations within the car. ESD protection on USB pins is provided via TPD2E001.



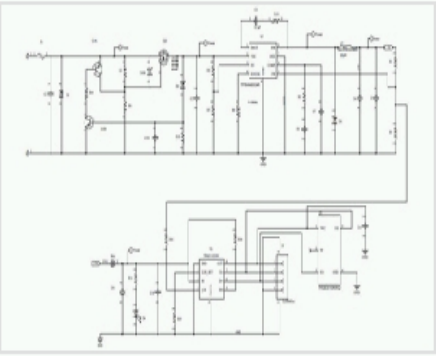
Front and back of board are shown

Features

- Small form factor design, PCB size: 1100X700 mils only
- Switching frequency of TPS54340 can be up to 2MHz which is above the audio band
- TPS5430 provides up to 2.1A @ 5V outputs
- ESD protection on USB pins via TPD2E001

Schematic/Block Diagram

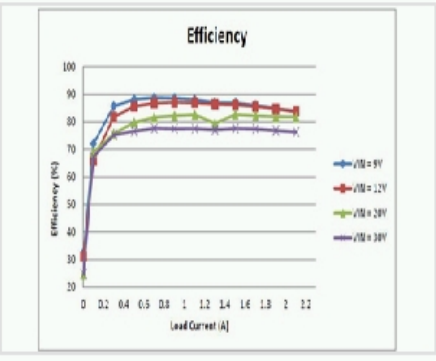
Quickly understand overall system functionality.



Download Schematic

Test Data

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



Download Test Data

TI Devices (2)

Get more information on the TI products in this reference design.

Part Number	Name	Product Family
TPD2E001	Low-Capacitance 2-Channel +/-15 kV ESD-Protection Array for High-Speed Data Interfaces	ESD/EMI Protection
TPS54340	42 V Input, 3.5 A, Step-Down DC/DC Converter with Eco-mode™	Converter (Integrated Switch)

Bill of Materials

Find the complete list of components in this reference design.

Download BOM

CAD/CAE Symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TPD2E001	SOP (DZD) | 4	Download	-
	SOT (DRL) | 5	Download	-
	WSON (DRS) | 6	Download	-
	USON (DRY) | 6	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 Ultra Librarian software ZIP: 62MB

Step 2: Download the Symbol and Footprint .bxl file.

- read more -

Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
Test Report for the iPad Automotive Charger		PDF	1085	11 Jun 2013	891

More Literature (2)

Title	Abstract	Type	Size (KB)	Date	Views
Bill of Materials for the iPad Automotive Charger		PDF	104	11 Jun 2013	705
Schematic for the iPad Automotive Charger		PDF	82	11 Jun 2013	953

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