

Automotive Brushed Motor Driver for Flip-up Displays

{ACTIVE} TIDA-00141

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- Description & Features

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Key Document

- TIDA-00141 Overview (PDF 298 KB)

07 May 2014 110 views

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Description

This TIDA-00141 reference design provides a quick setup guide for a push-to-open/push-to-close motor drive system that enables the actuation of a flip up display for infotainment systems. This solution also demonstrates two methods of feedback: one using limit switches and the other taking advantage of the current limit setting on the motor driver. Enabling a quick solution for faster time to market, this design uses all automotive qualified devices, allows direct battery connection, and requires no software effort. This design incorporates theTPS65320EVM board to create the solution.

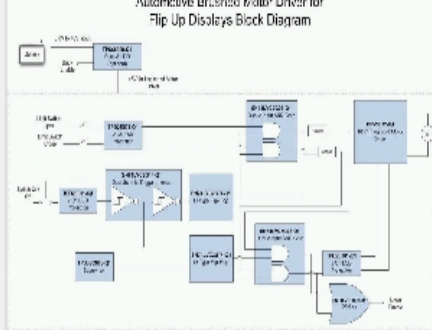
Features

- Push to Open/Push to Close Folding Display brushed motor drive solution without an MCU
- Wide input voltage range of 3.6V to 40V for power IC
- Linear/Switcher combination circuit enables low standby currents
- Supports actuator motors with currents up to 1A
- Small solution size with efficient layout considerations
- AEC-Q100 qualified devices

Schematic/Block Diagram

Quickly understand overall system functionality.

Automotive Brushed Motor Driver for Flip Up Displays Block Diagram



Download Schematic

Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

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Part Number	Buy from Texas Instruments or Third Party	Buy from Authorized Distributor	Status
TPS65320EVM: TPS65320-Q1 Evaluation Module for 40V Step-Down Converter with EcoMode™ and LDO Regulator	\$79.00(USD) In Stock Typically Ships in 1 to 3 Business Days Buy from TI	Pricing may vary. Buy from distributor	ACTIVE
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TI Devices (8)

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
DRV8832-Q1	Automotive 1A Low Voltage Brushed DC Motor Driver with Voltage Regulation	Integrated Motor Driver	Sample & Buy	View Design Kits & Evaluation Modules
SN74LVC1G32-	Automotive Catalog Single 2-Input Positive-OR Gate	Logic	Sample & Buy	Not Available
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CAD/CAE symbols

Part #	Package Pins	CAD File (.bxl)	STEP Model (.stp)
SN74LVC1G32-Q1	SOT (DBV) 5	Download	Download
	SOT (DCK) 5	Download	Download
SN74LVC2G08-Q1	SSOP (DCT) 8	Download	-
SN74LVC2G14-Q1	SOT (DCK) 6	Download	Download
SN74LVC2G74-Q1	VSSOP (DCU) 8	Download	-
TPD2E001-Q1	SOT (DRL) 5	Download	-
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TPS65320-Q1	HTSSOP (PWP) 14	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 Ultra Librarian software [ZIP: 62MB](#)

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Technical Documents

User Guides (2)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
TIDA-00141 Overview		PDF	298	07 May 2014	110	✓
TIDA-00141 Test Results		PDF	422	09 Apr 2014	67	

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00141 Gerber		ZIP	267	09 Apr 2014	23
TIDA-00141 BOM		PDF	118	09 Apr 2014	47
TIDA-00141 Schematic and Block Diagram		PDF	337	09 Apr 2014	126

Related Tools & Software

Software (1)

- TIDA-00141 Design File

(ZIP, 884 KB) 74 views, 09 Apr 2014

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