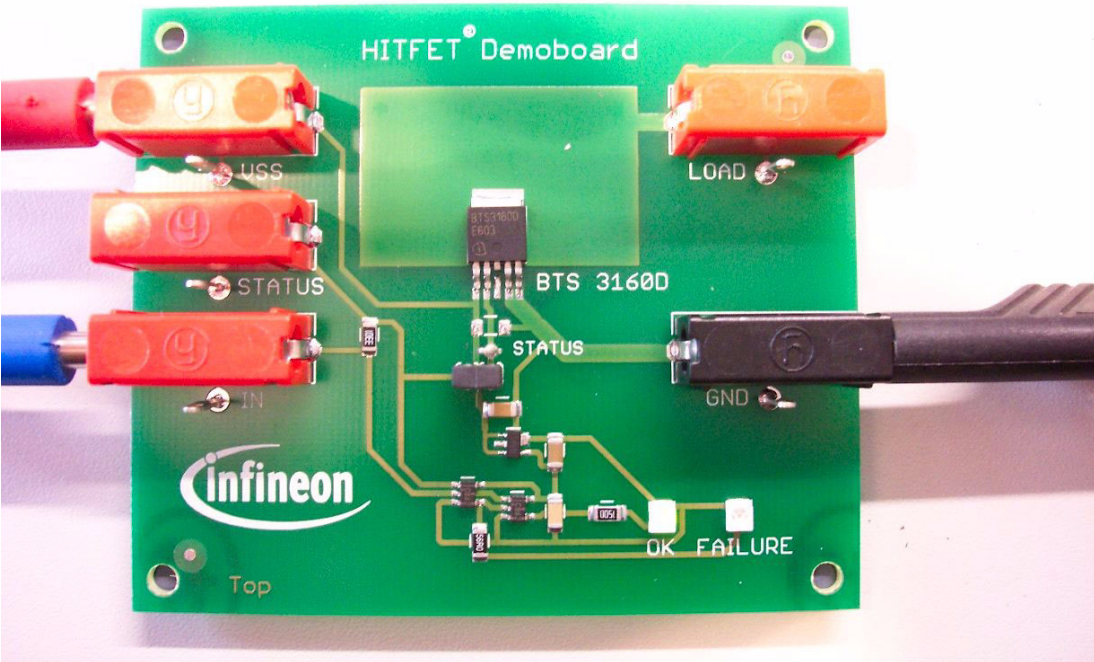




BTS 3160D

How to use the Demoboard



Automotive Power



Never stop thinking

1 Abstract

This Application Note is intended to provide a fast start with the BTS 3160D Demoboard. In normal application usage the BTS 3160D is designed to interact with some kind of μC , therefore it is a little bit effort to set up a circuit in the lab.

To minimize this effort we supply You with the BTS 3160D Demoboard.

2 Introduction

The BTS 3160 Demoboard is a small PCB (7 cm \times 8 cm) where a engineering sample is already mounted with a 6 cm² copper cooling area. LEDs show the device status. All device pins can be directly accessed and a jumper disconnects the attached logic from the device to avoid interferences for customer measurements.

3 Circuit Description

Out of the application circuit from [Figure 1](#) the Demoboard was developed.

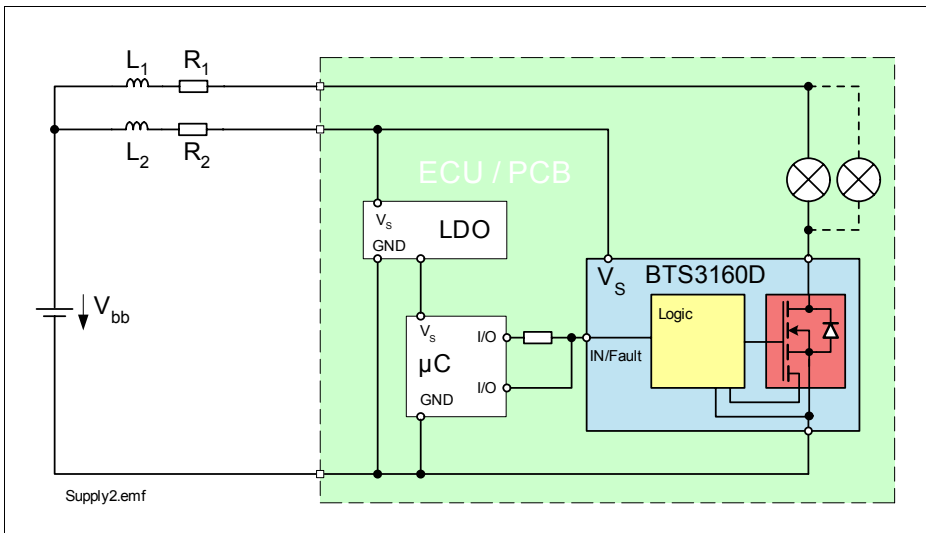


Figure 1 Typical Application Circuit

It was assumed that You want to see the device Status immediately and might also use the Status signal for diagnosis purposes.

We did not implement a μC to give You still direct access to the device IN pin.

Circuit Description

As the Demoboard will be used for evaluation we also implemented a easy way (jumper) to access the device without additional components on the IN path.

3.1 Demoboard Circuit

The Demoboard is using two XOR and LEDs to give a feedback of the device status. A LDO voltage regulator TLE4295 is used to supply the two XOR logic devices and the LEDs.

The Capacitors C_1 and C_2 are needed to stabilize the 5 V-Regulator. C_1 is also used to stabilize V_S .

The voltage on the V_S pin must not reach undervoltage lockout during operation.

The voltage on the IN pin together with R_1 is used to feedback the status of BTS 3160D. By removing the Jumper J1 the IN pin is separated from the logic circuit and can be directly accessed from the measurement point called "Status". In this case the signal on the IN connector will not reach the BTS 3160D anymore and also there will be no output on the STATUS connector of the PCB.

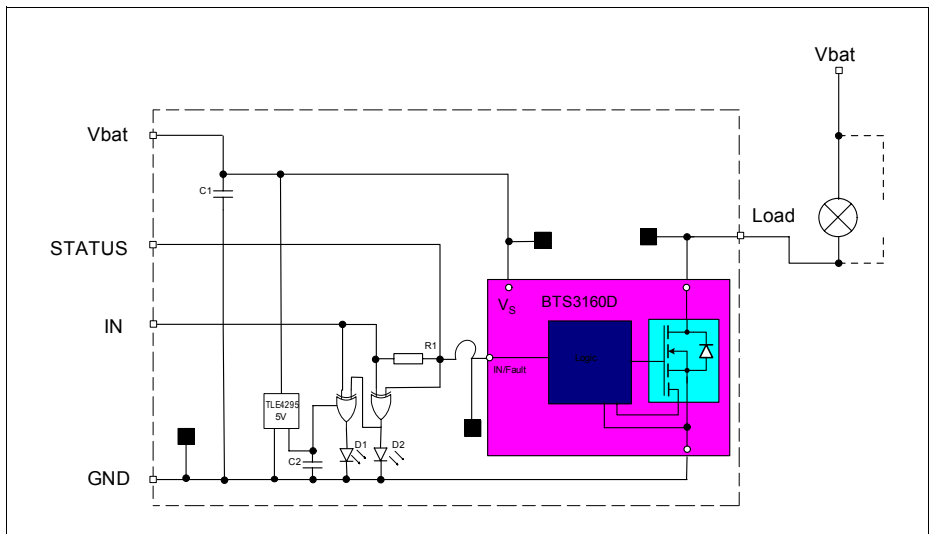


Figure 2 Demoboard Circuitry

3.2 Bill of Material

The following **Table 1** is showing the important parts on the Demoboard and the values used in partitioning.

Table 1 Extract of Bill of Material

Part Number	Value	Functional Description
R_1	3k3	used to generate digital status feedback
C_1	100 n (100 V)	stabilize V_{bat}
C_2	2u2	needed for 5 V-regulator
D_1	LED Green OK	active if no fault and device is switched on
D_2	LED Red FAILURE	active if device is switched on and fault occurred

4 Additional Information

This description should be a help to get the Demoboard working.

For device behaviour please refer to the data sheet.

5 Revision History

BTS 3160D

Revision History: **2008-03-03** Rev. 1.1

Previous Version: 2006-03-02 grey version of BTS3160D

Page	Subjects (major changes since last revision)
	no changes in description on grrn & robust logo added

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