



Product brief

TLS850B0-family

High-performance linear voltage regulator



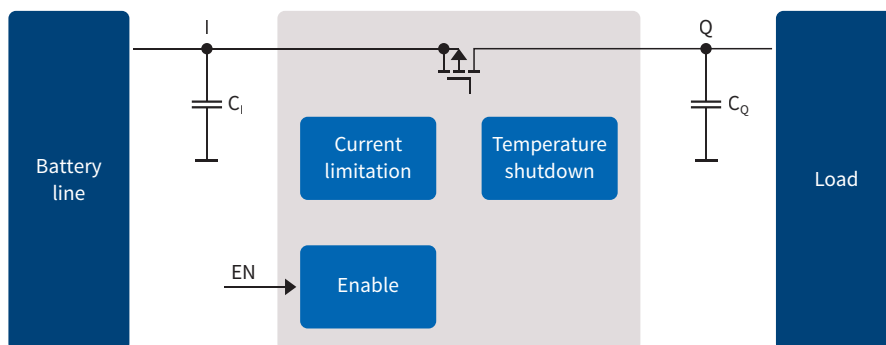
The TLS850B0 is a high-performance, very low dropout linear voltage regulator for 3.3 V and 5.0 V supply in a TO263-5 and TO252-5 package.

The input voltage range of 3.0 V to 40 V and a very low quiescent current of 20 μ A make it the perfect match for automotive or other supply systems connected to the battery permanently. The new loop concept combines fast regulation and very high stability while requiring only one small ceramic capacitor of 1 μ F at the output. Below an output current of 100 mA the typical dropout voltage of 100 mV is very low. The operating range starts at an input voltage of only 3 V (extended operating range). This makes the TLS850B0 suitable for automotive systems that need to operate during cranking condition.

The device can be switched on and off by the enable feature.

Internal protection features like output current limitation and overtemperature shutdown protect the device from immediate damage.

Application diagram for TLS850B0 for 12 V ECUs



Key features

- > Enable
- > Output voltage accuracy: ± 2 percent
- > Dropout voltage: 100 mV
- > Current consumption: 20 μ A
- > Available in TO252 and TO263 package
- > Wide operating temperature range: $-40^{\circ}\text{C} \leq T_j \leq 150^{\circ}\text{C}$

Benefits

- > Wide input voltage range
- > Robust TO252 and TO263 package
- > Reduces energy consumption, suitable for stand-by operation
- > Minimized external BOM

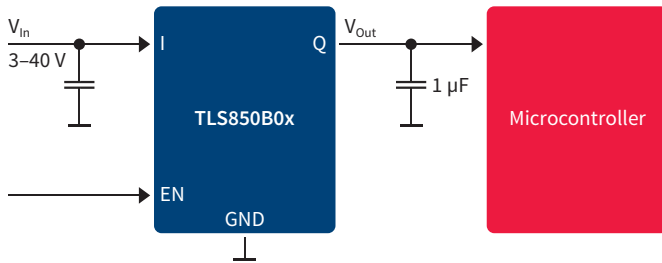
Applications

- > General automotive MCU power supply
- > EPS, 2 wheeler dashboard, instrument cluster
- > Body electronics, HVAC panel, etc.



TLS850B0-family

High-performance linear voltage regulator



Key features

Low drop voltage
(~100 mV)

Low current consumption
(~20 µA)

Excellent regulation loop

Key benefits

Suitable for cranking
(stop and start support from $V_{in} = 3\text{ V}$)

Longer battery lifetime

BOM cost optimized
stable V_{out}

Products

Product name	OPN	Output current I_{out} [mA]	Quiescent current I_q [µA]	Enable	$R_{th,JA}$ [K/W]	Output voltage [V]	Package
TLS850B0TBV33	TLS850B0TBV33ATMA1	500	20	Yes	26	3.3	TO263
TLS850B0TBV50	TLS850B0TBV50ATMA1	500	20	Yes	26	5.0	TO263
TLS850B0TEV33	TLS850B0TEV33ATMA1	500	20	Yes	26	3.3	TO252
TLS850B0TEV50	TLS850B0TEV50ATMA1	500	20	Yes	26	5.0	TO252

Demoboards

Product name	OPN	Description
TLS850B0TB50 BOARD	TLS850B0TB50BOARDTOB01	TLS850B0 Demoboard D ² PAK TO263-5, 5.0 V
TLS850B0TB33 BOARD	TLS850B0TB33BOARDTOB01	TLS850B0 Demoboard D ² PAK TO263-5, 3.3 V
TLS850B0TE50 BOARD	TLS850B0TE50BOARDTOB01	TLS850B0 Demoboard DPAK TO252-5, 5.0 V
TLS850B0TE33 BOARD	TLS850B0TE33BOARDTOB01	TLS850B0 Demoboard DPAK TO252-5, 3.3 V

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2018 Infineon Technologies AG.
All Rights Reserved.

Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.