



## Product brief

# TLS835/TLS820

## Ultra-low current consumption linear voltage regulator family



The TLS835/TLS820 is a family of linear voltage regulators that incorporates features such as wide input voltage range with a best in class combination of low dropout voltage and ultra-low quiescent current. The TLS835 and TLS820 have an output current of 350 mA and 200 mA respectively and are available in the SSOP-14 package. With a wide input voltage range of 3 V up to 40 V and the ultra-low quiescent current, these products are perfectly suitable for supply systems connected permanently to the battery and for cranking applications. The family offers various options of feature set and output voltage.

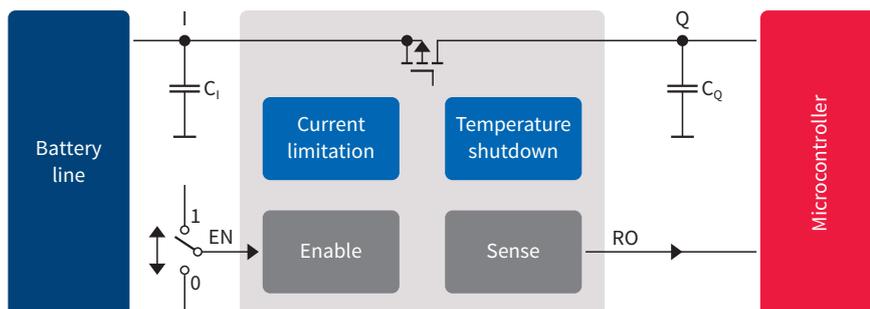
Products in this high performance linear regulator family incorporating the enable feature can be switched on and off using this feature. The current consumption of the device in off mode is less than 1  $\mu$ A. The output voltage is supervised by the reset feature, including undervoltage reset and delayed reset release at power-on. The device also includes internal protection features such as output current limitation and overtemperature shutdown.

With this family a brand new feature of a “Selectable Output Voltage” is being introduced into the automotive linear regulator portfolio. The selectable variant can be configured to either a 5 V or a 3.3 V output by connecting the SEL pin either to output (Q) or to ground (GND) giving customers even more flexibility in their applications.

### Applications

- > Applications with direct battery connection
- > Automotive general ECUs
- > Dashboard, cluster, Infotainment
- > Body control modules

### Application schematic



### Key features

- > Enable and reset
- > Output voltage options:
  - ADJ or Selectable (3.3 V or 5 V)
- > Maximum output current
  - TLS835: 350 mA
  - TLS820: 200 mA
- > Current consumption: 20  $\mu$ A typically
- > Available in SSOP-14 package

### Benefits

- > Excellent transient robustness  $\rightarrow$  **smaller input capacitors hence lower input filtering costs**
- > Functional input voltage range starts at 3 V and very low dropout voltage  $\rightarrow$  **suitable for cranking**
- > Stable with 1  $\mu$ F output capacitor  $\rightarrow$  **PCB space and cost savings**
- > Ultra-low quiescent current and current consumption  $\rightarrow$  **power saving for battery**



RoHS



# TLS835/TLS820

Ultra-low current consumption linear voltage regulator family



## Family overview

Key features	Key benefits
<p><b>Extended input range</b></p>	<p><b>Suitable for very low cranking (stop and start)</b></p>
<p><b>Ultra-low quiescent current</b></p>	<p><b>Energy efficiency: Save battery resources for ECUs in stand-by mode</b></p>
<p><b>Excellent line transient</b></p>	<p><b>Design for harsh automotive environment</b></p>

## Product table

Product	OPN	Output current $I_{out}$ [mA]	Quiescent current $I_q$ [µA]	Enable feature	Reset feature	Output voltage [V]	Package
TLS835D2ELVSE	TLS835D2ELVSEXUMA1	350	25	Yes	Yes	Selectable 5 V or 3.3 V	SSOP-14
TLS835B2ELV	TLS835B2ELVXUMA1	350	22	Yes	No	Adjustable	SSOP-14
TLS835B2ELVSE	TLS835B2ELVSEXUMA1	350	22	Yes	No	Selectable 5 V or 3.3 V	SSOP-14
TLS820B2ELVSE	TLS820B2ELVSEXUMA1	200	20	Yes	No	Selectable 5 V or 3.3 V	SSOP-14

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](http://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.