

## Product Brief

# TLS820D0TEV50/33

## High performance linear voltage regulator



TLS820D0ELVxx is a high performance voltage regulator in a small thermal enhanced package. With wide input voltage range (3 V to 40 V) and very low quiescent of only 40  $\mu$ A, this regulator is perfectly suitable for automotive systems connected permanently to battery. TLS820D0ELVxx is available in 5.0 V and 3.3 V output voltage with 2% accuracy and maximum output current up to 200 mA.

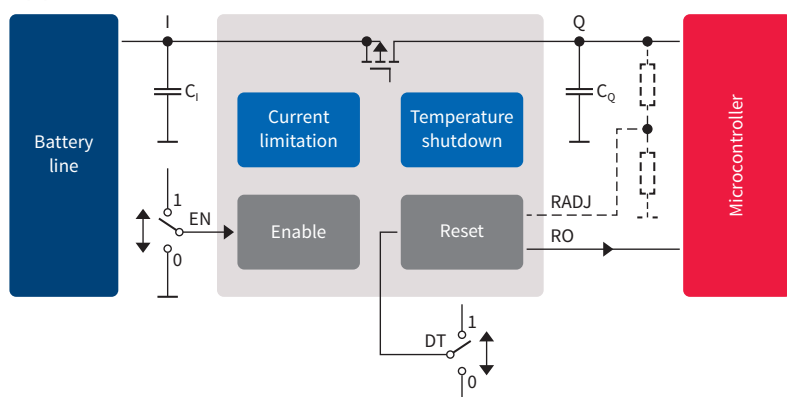
Its new loop concept combines fast regulation and very good stability requiring only one small ceramic output capacitor of 1  $\mu$ F. TLS820D0ELVxx has a very low dropout voltage of only 70 mV and an extended input operating range down to 3 V making it suitable to supply automotive systems during cranking condition and especially for stop and start system.

The device can be switched on and off by the enable feature leading to a current consumption of typ. 1.3  $\mu$ A. The output voltage is supervised by the reset feature, including undervoltage reset, delayed reset at power-on and an adjustable lower reset threshold. Adjustable reset threshold helps to implement microcontroller specific power down sequence and improves flexibility in the system. Its internal protection features prevent the device against failures like output short circuit to GND, overload and overtemperatures.

### Applications

- > Automotive application with stop & start/cranking requirements
- > Safety applications requiring excellent line transient robustness
- > ADAS, dashboard, clusters, gateway & HVAC, powertrain
- > 16 and 32 bits microcontroller supply

### Application schematic



### Key features

- > Enable, reset with adjustable threshold
- > Output voltage: 5.0 V and 3.3 V
- > Input current: 200 mA
- > Low current consumption: 40  $\mu$ A
- > Drop voltage: 70 mV @ 100 mA

### Key benefits

- > Excellent transient robustness  $\rightarrow$  lower input filtering cost
- > Cost optimized ceramic output capacitance  $\rightarrow$  1  $\mu$ F
- > Very low cranking  $\rightarrow$  3 V input & very low dropout
- > Suitable for stop & start system

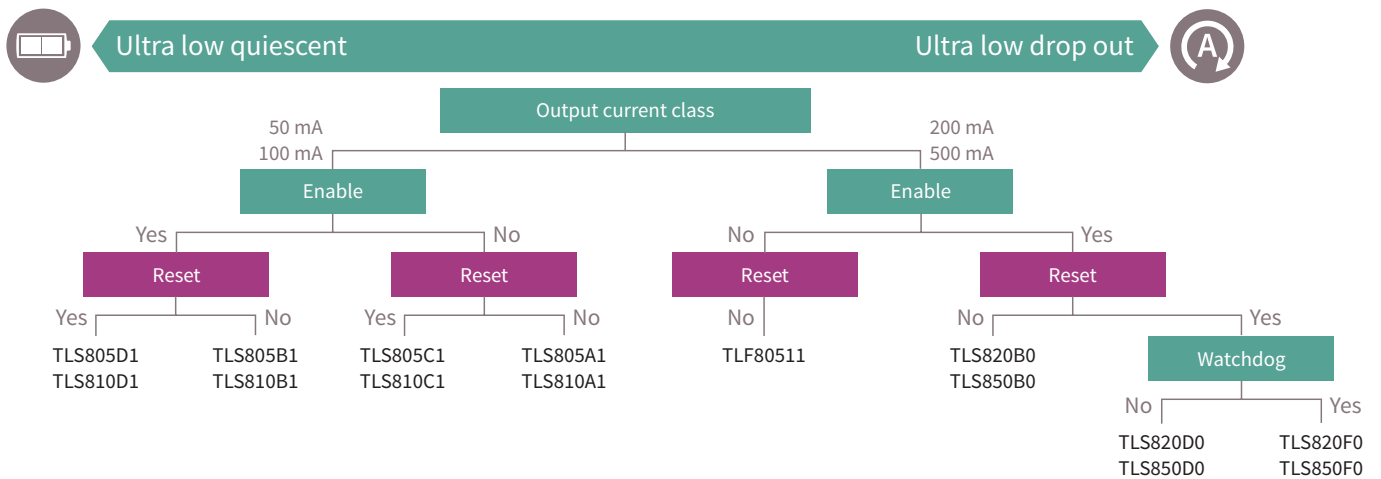


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## Family overview

| Key features                        | Key benefits   |
|-------------------------------------|--|
| <b>Low drop voltage</b><br>         | <b>Suitable for very low cranking (stop and start)</b>                     |
| <b>Low quiescent current</b><br>    | <b>Energy efficiency: Save battery resources for ECUs in stand-by mode</b> |
| <b>Excellent line transient</b><br> | <b>Design for harsh automotive environment</b>                             |



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