

Product Brief

TLS850D0TxV50-33

High performance linear voltage regulator

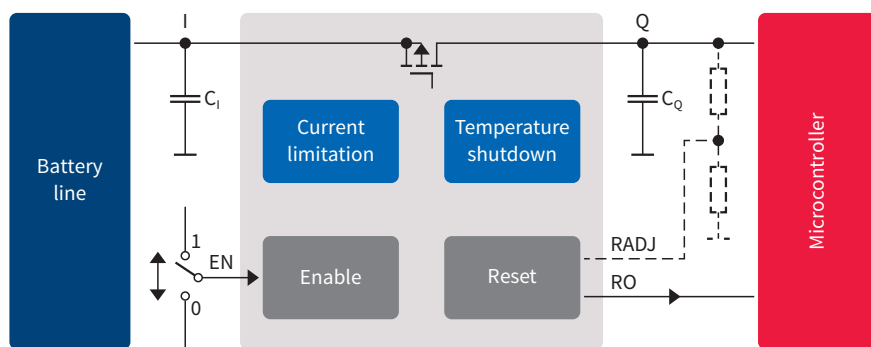


TLS850D0TxVxx is a high performance voltage regulator family in TO263-7 and TO252-5 packages. With wide input voltage range (3 V to 40 V) and very low quiescent of only 40 μ A, this regulator family is perfectly suitable for automotive systems connected permanently to battery. TLS850D0TxVxx is available in 5.0 V and 3.3 V output voltage with 2% accuracy and maximum output current up to 500 mA.

Its new loop concept combines fast regulation and very good stability requiring only one small ceramic output capacitor of 1 μ F. TLS850D0TxVxx 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 μ A. The output voltage is supervised by the reset feature, including undervoltage reset, delayed reset at power-on. TLS850D0TAVxx offers 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.

Application schematic



Key features

- > Enable, reset with adjustable threshold
- > Output voltage: 5.0 V and 3.3 V
- > Input current: 500 mA
- > Low current consumption: 40 μ A
- > Drop voltage: 70 mV @ 100 mA

Key benefits

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

Applications

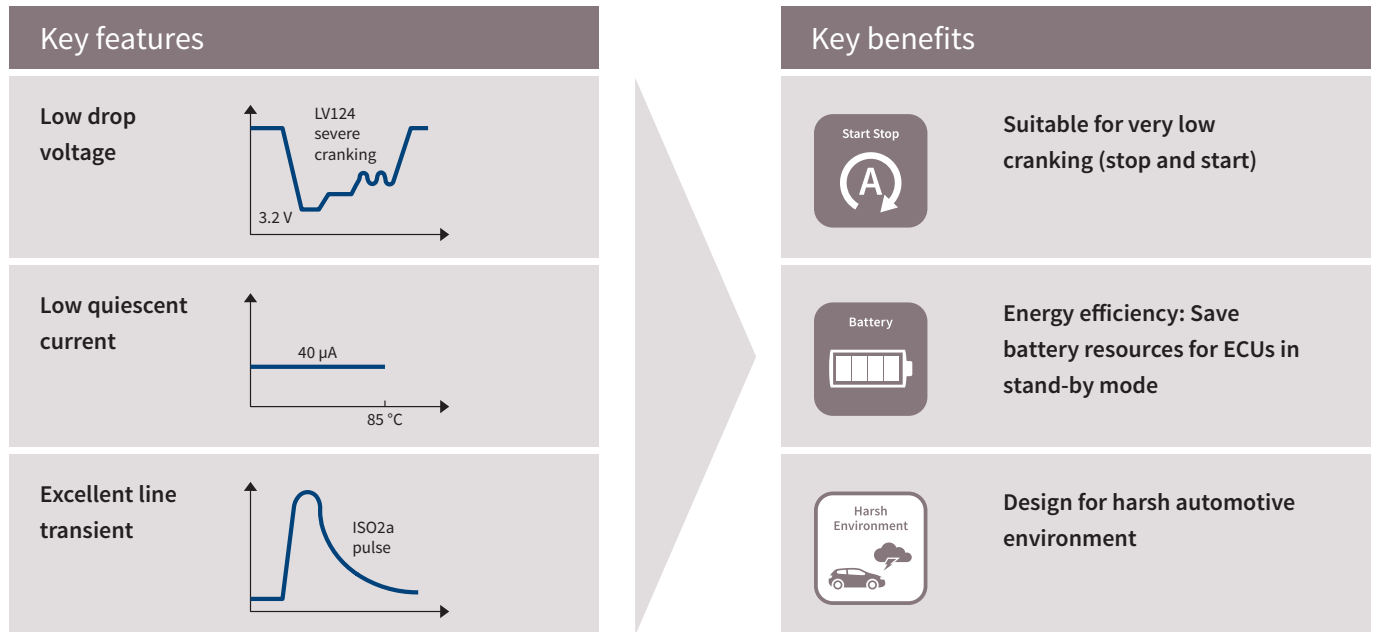
- > Automotive application with stop and start/cranking requirements
- > Safety applications requiring excellent line transient robustness
- > ADAS, dashboard, clusters, gateway and HVAC, powertrain
- > 16 and 32-bits microcontroller supply



High performance linear voltage regulator



Family overview



Product table

Product	Output current [mA]	Output voltage [V]	Quiescent current [μ A]	Enable	Reset	Reset adjustable threshold	Watchdog	Package
TLS850F0TA V50	500	5.0	40	Yes	Yes	Yes	Yes	TO263
TLS850F0TA V33	500	3.3	40	Yes	Yes	Yes	Yes	TO263
TLS850F1TA V50	500	5.0	40	Yes	Yes	Yes	Yes	TO263
TLS850D0TA V33	500	3.3	40	Yes	Yes	Yes	-	TO263
TLS850D0TA V50	500	5.0	40	Yes	Yes	Yes	-	TO263
TLS850D0TE V33	500	3.3	40	Yes	Yes	-	-	TO252
TLS850D0TE V50	500	5.0	40	Yes	Yes	-	-	TO252

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