

L5050S & L5050SD

Automotive linear voltage regulators



Single- and dual-isolated AEC-Q100-qualified LDOs suitable for low-power applications

The L5050S single-output and L5050SD dual-output voltage regulators have a current capability of 50 mA and a 5 V regulated output voltage.

The two AEC-Q100 voltage regulators embed low dropout voltage and low quiescent current and are mainly suitable for applications needing low-current supplies.

The L5050SD includes two fully electrically isolated dice for safety-related electronic applications.

KEY FEATURES & BENEFITS

- Low quiescent current
- High reliability
- Limited number of external components needed
- Low dropout voltage
- Enable input
- Thermal shutdown
- Short-circuit protection

KEY APPLICATIONS

- LDM (LED Driver module)
- Heating and fans
- TPMS (Tire Pressure Monitoring System)
- Two-wheeler applications
- Sensors

L5050S & L5050SD FEATURES

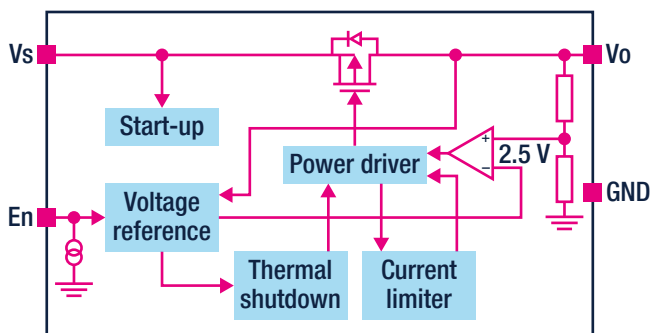
The L5050S delivers up to 50 mA of load current, and consumes as low as 40 μ A of quiescent current in light-load conditions. High-output voltage accuracy ($\pm 2\%$) is kept over a wide temperature range line and load variation. An enable feature allows enabling or disabling of the voltage regulator. The regulator output current is internally limited and the device is protected against short-circuit, overload and over temperature conditions. In addition, only a low-value ceramic capacitor on output is required for stability.

The L5050SD houses two electrically isolated dice in an SO-8 package; each silicon die is identical to the one embedded in the L5050S.

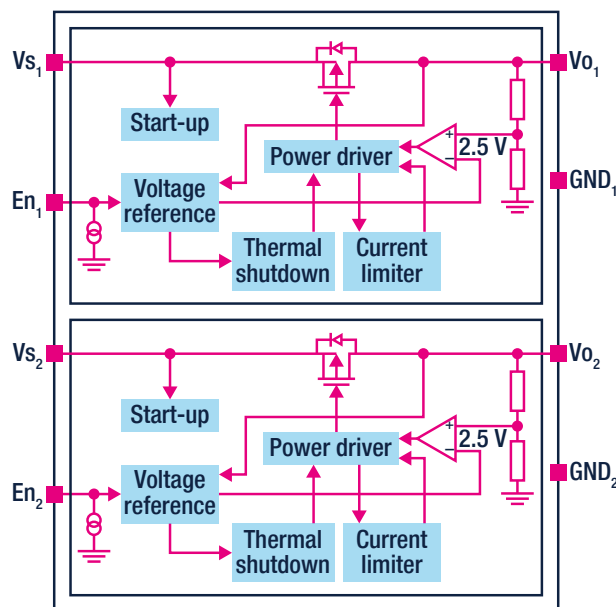
This specific dual-voltage regulator is intended for cost-effective applications where safety considerations are crucial. Because there are two physically different devices, a potential failure of one of the voltage regulators would have no impact on the other one.

L5050S & L5050SD BLOCK DIAGRAM

L5050S



L5050SD



DEVICE SUMMARY

Part number	Package	Number of outputs	Extended operative input voltage (V)	Regulated Output Voltage (V)	Output Current (mA)	Max Dropout voltage (mV)	Typ. Quiescent current (μ A)	Feature
L5050S	SO-8	1	5.6 to 40	5	50	500	5 ⁽¹⁾	Enable
L5050SD		2		2x5	2x50	2x500	2x5 ⁽¹⁾	

(1) Typical value when disabled



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