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LDO Features Low Noise, Dropout And Quiescent Current

STMicroelectronics' LD56020 200-mA low-dropout voltage regulator (LDO) operates with a supply from 1.1 V to 5.5 V and has low output noise for applications that demand excellent stability and long battery runtime. Well suited for mobiles, vision sensors, and wireless modules, the competitively priced LD56020 has extremely low dropout voltage of just 190 mV (max. at full load) and maximum quiescent current of 25 µA at light load. An external enable pin permits control logic to put the regulator into standby mode, which reduces current below 0.1 µA (see the figure).

With supply-voltage rejection (SVRIN) of 90 dB (1 kHz, 20 mA) and output noise of just 8.8 µVRMS (10 Hz to 100 kHz), the LD56020 provides a clean power rail for low-voltage digital circuitry. The circuit is stabilized with only one small ceramic capacitor at each of the input and output terminals. In addition to minimizing the bill of materials, the low overall component count combines with the regulator's tiny chip-scale package (CSP) outline of 0.65 mm x 0.65 mm to ensure a compact circuit footprint with low impact on PCB size.

The regulator integrates protection features including short-circuit current foldback and undervoltage lockout to prevent excessive dissipation in the event of a system fault. There is also overtemperature protection and an internal discharge path.

The LD56020 is in production now in the CSP-4 chipscale package, priced from $0.14 for orders of 1000 pieces. For further information, see the LD56020 page.

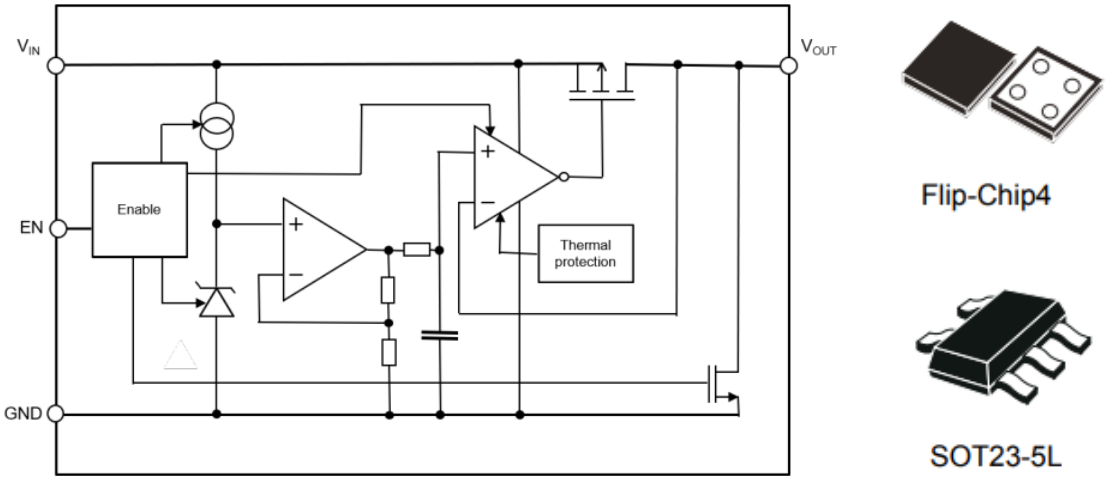

Figure The LD56020 is a high-accuracy voltage regulator which provides 0.2 A of current. It is available in a 0.65-mm x 0.65-mm CSP package or SOT23-5L. The device is stabilized with a small ceramic capacitor on input and output. The ultra-low drop, low quiescent current and short-circuit current foldback make the LD56020 suitable for low-power battery-operated applications.

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