TI introduces power converter for energy harvesting and low-power applications

Medical Design Technology

The new TPS62120 achieves 96% efficiency, and can generate a 75mA output current from an input voltage of 2 to 15V. The device supports energy harvesting and battery-powered applications, as well as 9 V and 12 V line-powered systems.

The TPS62120 synchronous converter features a power save mode to provide high efficiency over the entire load current range, reaching 75% efficiency at loads down to 100µA. During light load operation, the device operates in a pulse frequency modulation (PFM) mode, consuming only 11µA of quiescent current. The TPS62120 also maintains smooth, efficient operation at higher currents by transitioning automatically from its power save mode to a fixed-frequency pulse width modulation (PWM) mode.

Features and benefits of the TPS62120 include: 2 to 15V input voltage and 1.2 to 5.5V output enables power generation for a wide range of microcontrollers, such as TI's ultra-low power MSP430™ MCUs and the CC430, TI's single-chip MSP430 and low-power RF solution; wide under voltage lock out (UVLO) hysteresis; an operating range from 2.5V rising to 1.85V falling; and 75mA output and power save mode with 11µA quiescent current.

The TPS62120 is available in an 8-pin, 3 x 3mm SOT-23 package. The TPS62122 also is available in a 6-pin, 2 x 2mm QFN package. Suggested resale price for TPS62120 is $0.95; TPS62122 is $1.05 in 1,000-unit quantities.

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