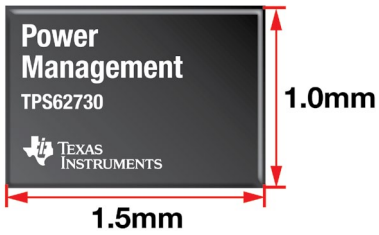
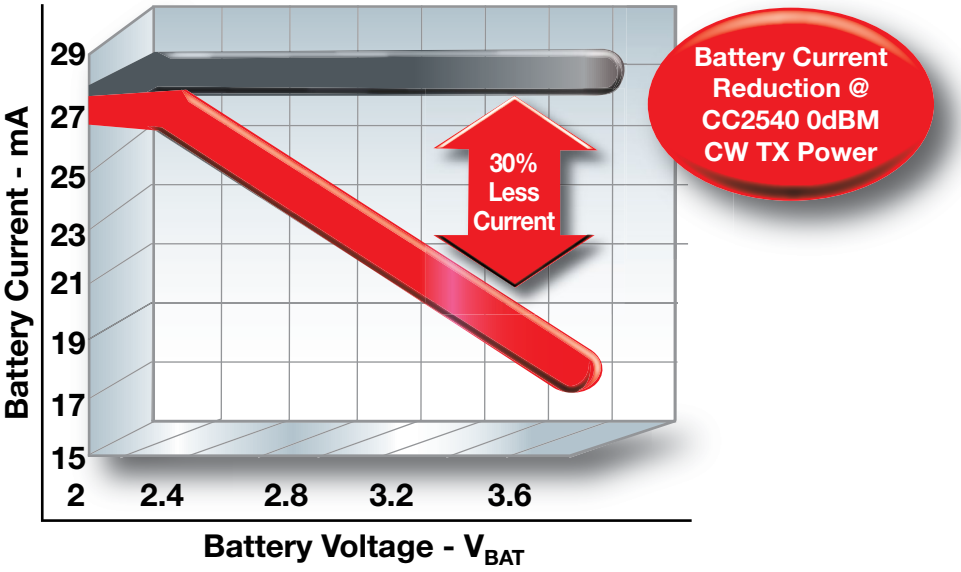
Achieve 20-30% power savings in low-power RF devices

with TI's TPS62730 step-down converter plus integrated bypass mode for ultra-low-power wireless applications.

The TPS62730 is a high-frequency synchronous step-down DC/DC converter optimized for ultra-low-power wireless applications such as TI's low-power wireless sub 1-GHz and 2.4-GHZ RF transceivers. The device reduces the current consumption drawn from the battery during TX and RX mode by a high-efficient step-down voltage conversion.



Battery Current Reduction by Use of TPS62730 in a *Bluetooth*® Low-Energy System-On-Chip Solution



Features and Benefits

- DCS Control™, an advanced regulation topology that combines the advantages of hysteric and voltage mode control architectures, enables excellent AC line and load transient regulation.
- Step-down converter provides excellent low-output voltage ripples over the entire load range which makes this part ideal for low-power RF applications.
- Fixed output voltage options feature smallest solution size by using only three external components.
- Input voltage range of 1.9 V to 3.9 V supports Li-primary battery chemistries such as Li-SOCl2, LiSO2, Li-MnO2 and also two-cell alkaline batteries.
- Ultra-low-power bypass mode with typical 30-nA current consumption supports sleep and low-power modes of modern RF transceivers.
- DC/DC operation mode provides a regulated output voltage consuming typical 25-µA quiescent current

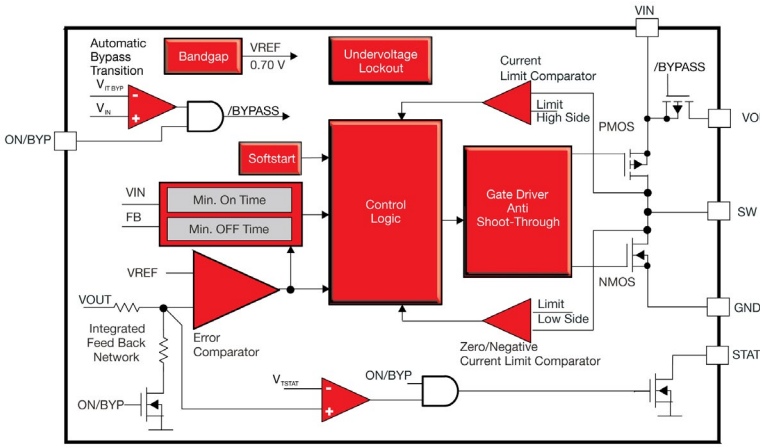
Parametrics

Iout (Max) (A)	0.1
Vin (Min) (V)	1.9
Vin (Max) (V)	3.9
Vout (Min) (V)	1.9
Vout (Max) (V)	2.1
Switching Frequency (Typ) (kHz)	3000

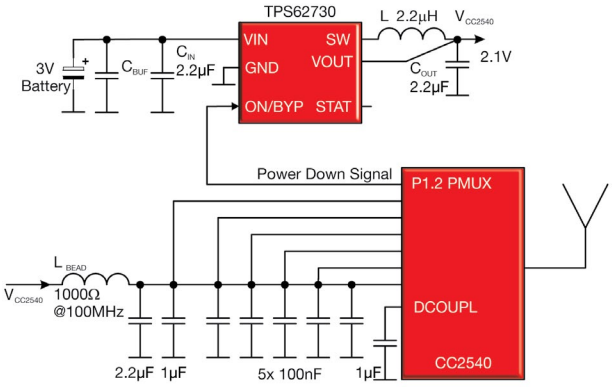
Topology	Buck
Operating Temperature Range (°C)	-40 to 85
Pin/Package	6SON
Rating	Catalog
Duty Cycle (Max) (%)	100
Regulated Outputs (#)	1

www.ti.com/tps62730

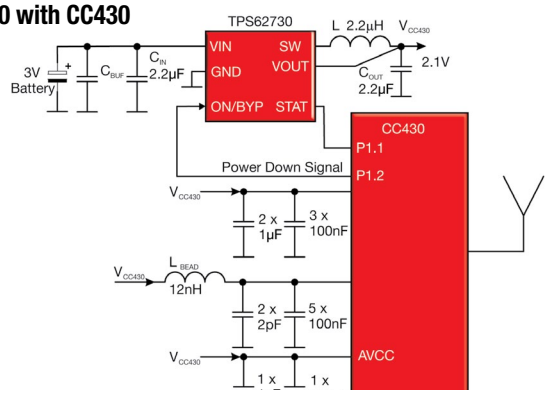
Functional Block Diagram



TPS62730 with CC2540



TPS62730 with CC430



ORDERING INFORMATION

T_A	PART NUMBER(1)	OUTPUT VOLTAGE [V](2)	Automatic Bypass Mode Transition Thresholds $V_{IT\ BYP}$			ORDERING	PACKAGE MARKING
			$V_{IT\ BYP}$ [V] rising V_{IN}	$V_{IT\ BYP}$ [V] falling V_{IN}	$V_{IT\ BYP}$ [mV] hysteresis		
–40°C to 85°C	TPS62730	2.10	2.25	2.20	50	TPS62730DRY	RP
	TPS62731 (2)	2.05	2.2	2.15	50	TPS62731DRY	RQ
	TPS62732 (2)	1.90	2.10	2.05	50	TPS62732DRY	RR
	TPS62734 (2)	2.10	2.28	2.23	50	TPS62734DRY	SL
	TPS62735 (2)	2.10	2.33	2.23	100	TPS62735DRY	SM

(1) The DRY package is available in tape on reel. Add R suffix to order quantities of 3000 parts per reel, T suffix for 250 parts per reel.
(2) Device status is product preview, contact TI for more details

For more information visit www.ti.com/tps62730

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