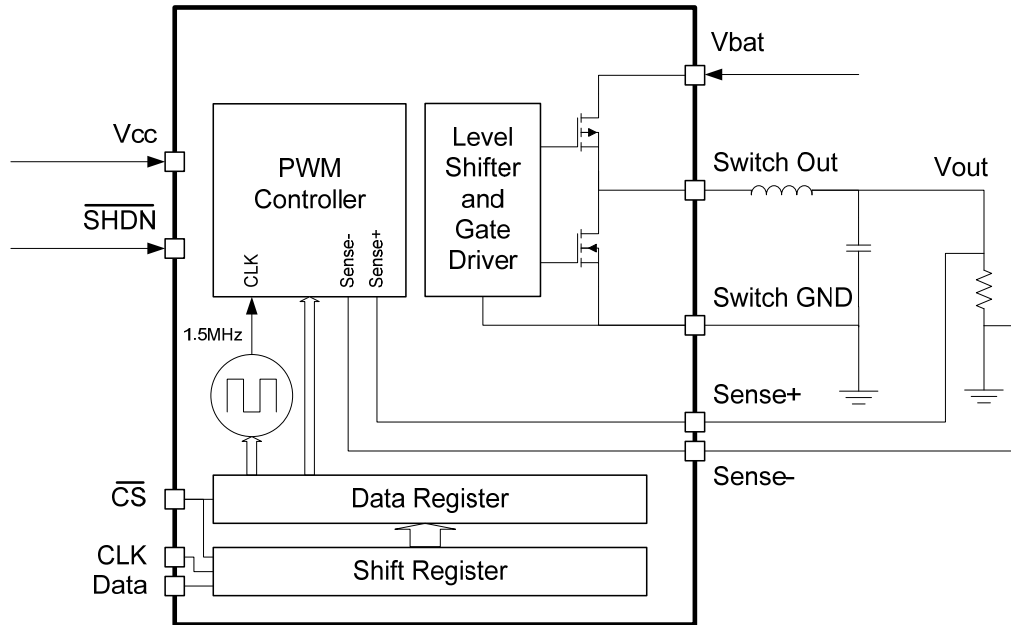


Block Diagram



Typical Applications

- Cellular Phone Power Amplifier Supply
- Low Noise Radio Supply
- Adjustable Microprocessor Supply
- Integration with RFICs

Key Features

- 1.5MHz switching Frequency
- Excellent Efficiency
 - ❖ 96% at 3.0V Out
 - ❖ 94% at 2.0V Out
 - ❖ 82% at 0.6V Out (400mA load, 3.6V In)
- Up to 1A Load Current
- Shutdown Input
- Serial Programming Interface

IP Block Overview

The TRFS70001 is a synchronous step down voltage regulator designed for applications where battery life time or lowest heat dissipation are essential. While this IP block can be used standalone, it has been developed such that it can be integrated with other circuitry in an RFIC.

Its 1.5MHz clock frequency allows the use of small external components while also providing excellent efficiency. A variety of operational parameters can be controlled via the 3-wire serial programming interface. A separate shutdown input turns the regulator on or off.

IP Block Performance Summary

Specification	Conditions	MIN	TYP	MAX	Units
Temperature Range		-40	25	85	°C
VBAT		3V	3.6	4.3	V
Vcc		2.7		3.6	V
Quiescent Current	At Vcc		2.5	4	mA
Output Voltage		0.6		VBAT -0.3	V
Dropout	Delta between VBAT and VOUT @1A Load Current		0.3		V
Output Capacitor Value	For <5mV ripple	4.7			µF
Output Inductor Value			4.7		µH
Current Limit			2		A
Continuous Output Current			1		A
Switching Frequency		1	1.5	2	MHz
Absolute Output Voltage Accuracy	VOUT > 1V	-5		+5	%
Line Regulation			3		mV/V
Load Regulation			7		mV/A
Startup Time	/SHDN\ high to when absolute voltage accuracy is met			50	µs
Voltage Step Time	Time to step voltage levels			50	µs

Known Limitations/Issues

Revision History

Revision #	Date	Notes
V1.0	11-Dec-2008	Initial Draft
V1.1	14-Jan-2009	Initial Customer Release
V1.2	16-Jan-2009	Corrected formatting