

1A, Ultra-Low Dropout Bias Rail CMOS Voltage Regulator

■ General Description

The OCP1410 is a 1A LDO equipped with NMOS pass transistor and a separate bias supply voltage (V_{BIAS}).

The device provides very stable, accurate output voltage with low noise suitable for space constrained, noise sensitive applications. In order to optimize performance for battery operated portable applications, the OCP1410 features low IQ consumption.

The OCP1410 is available in 1.17mm x 0.77mm WLCSP-6B package, and it is RoHS compliant and 100% lead Pb free. Operating temperature range of the OCP1410 is from -40°C to 85°C.

■ Features

- Ultra-Low Dropout: Typ. 60mV at 1A
- $\pm 1\%$ Accuracy over Temperature, $\pm 0.5\%$ V_{OUT} @25°C
- Adjustable and Fixed voltage version available
- Output voltage range: 0.4V to 2.4V (Fixed)
0.5V to 3.0V (Adjustable)
- Input voltage range: V_{OUT} to 5.5V
- Bias voltage range: 3.0V to 5.5V
- Very low Bias input current of Typ. 38 μ A
- Very low Bias input current in Disable mode: Typ. 0.5 μ A
- Logic Level Enable Input for ON/OFF Control
- Output Active Discharge Available
- Stable with a 10 μ F Ceramic Capacitor
- Available in WLCSP6 – 1.17 mm x 0.77 mm, 0.4 mm pitch Package
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

■ Applications

- Smart-phones
- Tablets
- Cameras
- Battery powered equipment
- DVRS
- STB
- Camcorders

Pin Configuration

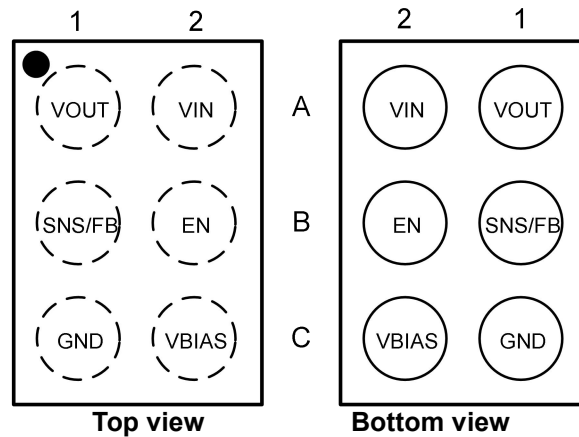


Figure 1, Pin Assignments of OCP1410

Pin Name	Pin No.	Pin Function
	WLCSP6B	
VOUT	A1	Regulated output voltage pin
VIN	A2	Input voltage pin
VBIAS	C2	Bias voltage for internal control circuits. This pin is monitored by internal Under-Voltage Lockout Circuit.
EN	B2	Enable pin. Driving this pin high enables the regulator. Driving this pin low puts the regulator into shutdown mode.
SNS (FIX)	B1	Output voltage Sensing Input pin. Connect to output on the PCB to output the voltage corresponding to the part version.
FB (ADJ)	B1	Adjustable regulator feedback input. Connect to output voltage resistor divider central node.
GND	C1	Ground pin.

Typical Application Circuit

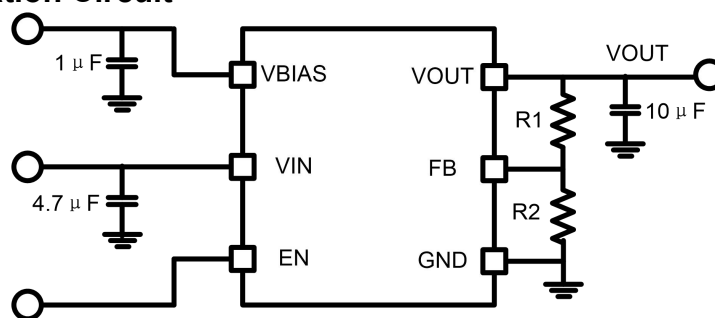


Figure 2(A), Typical Application Schematics at Adjustable mode

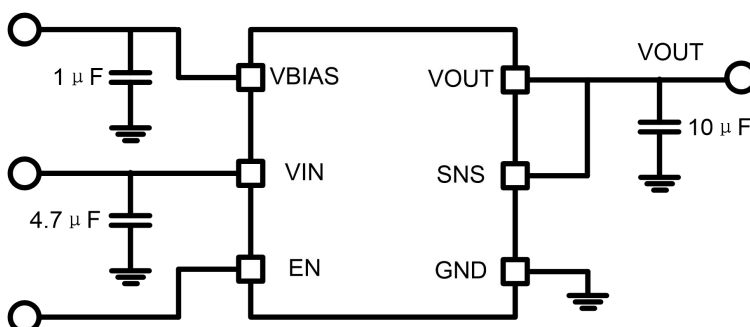


Figure 2(B), Typical Application Schematics at Fixed mode

■ Block Diagram

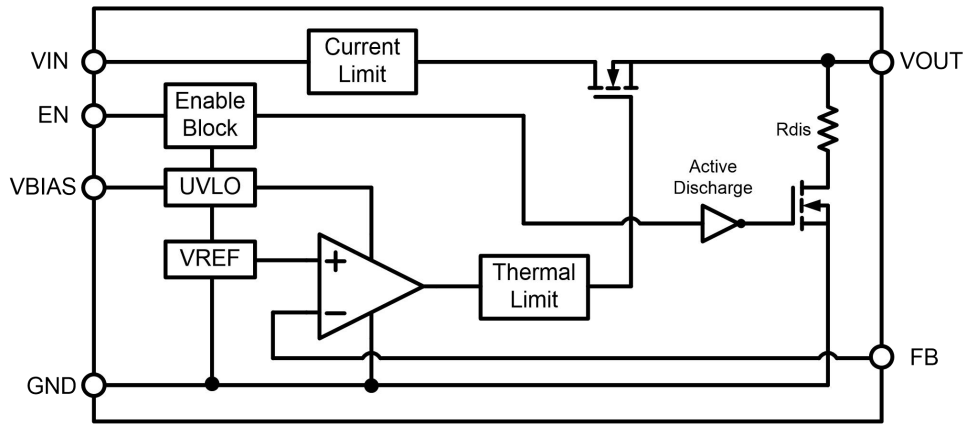


Figure 3(A), Block Diagram of OCP1410-Adjustable Version

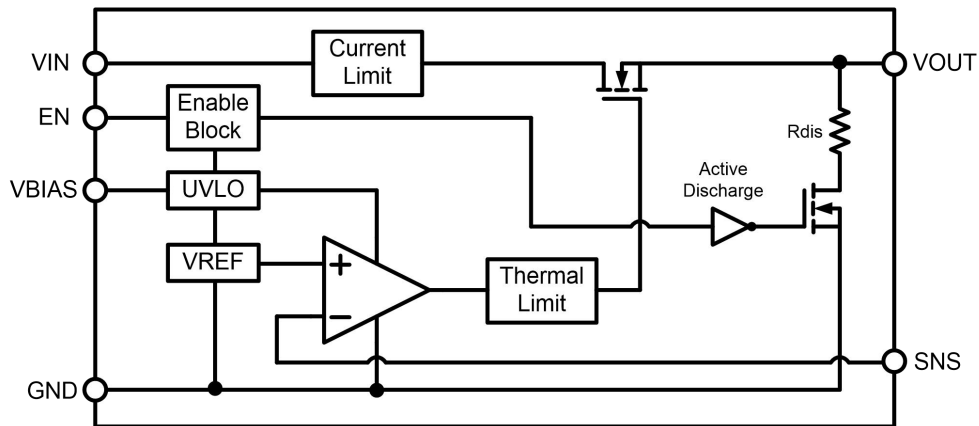


Figure 3(B), Block Diagram of OCP1410-Fixed Version