

New 3-Terminal Regulators Add Functionality

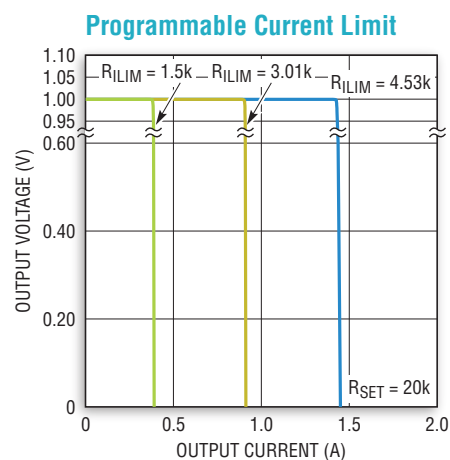
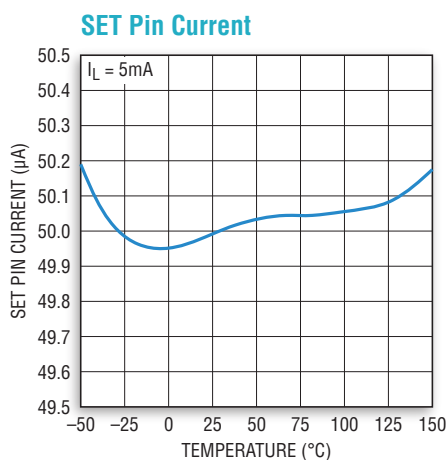
Comparison of Key Features and Specifications

	LT3083	LT3086	LT3081	LT3080	LT3085	LT3082	LM317	LT108x
I_{OUT}	3A	2.1A	1.5A	1.1A	0.5A	0.2A	1.5A	1.5A to 7.5A
Maximum V_{IN}	23V	40V	40V	36V	36V	40V	40V	30V
Minimum V_{OUT}	0V	400mV	0V	0V	0V	0V	1.25V	1.25V
Dropout Voltage	310mV	330mV	1.25V	350mV	275mV	1.3V	2.2V	1.3V
Minimum I_{LOAD}	1mA	1mA	2mA	500 μ A	500 μ A	500 μ A	5mA	10mA
Minimum C_{OUT}	10 μ F	10 μ F	None	2.2 μ F	2.2 μ F	2.2 μ F	1 μ F Tantalum	10 μ F Tantalum
Current Reference	50 μ A	50 μ A	50 μ A	10 μ A	10 μ A	10 μ A	N	N
1 Resistor V_{OUT} Set	Y	Y	Y	Y	Y	Y	N	N
Parallelable	Y	Y	Y	Y	Y	Y	N	N
I_{OUT} Monitor	N	Y	Y	N	N	N	N	N
Temperature Monitor	N	Y	Y	N	N	N	N	N
Programmable Current Limit	N	Y	Y	N	N	N	N	N

Benefits of LT308X Regulators with a Current Source Reference over Traditional 3-Terminal Regulators with a Voltage Reference

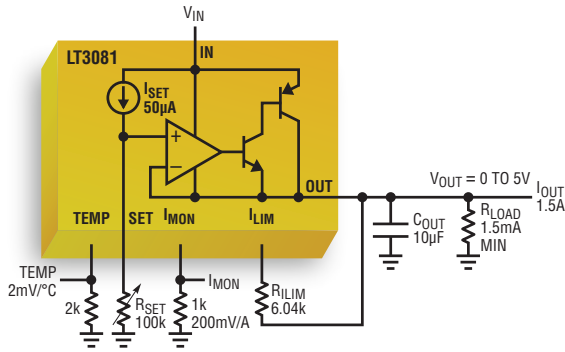
- 1 Resistor Programs Output Voltage
- Always Operates in Unity-Gain
 - Bandwidth Independent of Output Voltage
 - Transient Response Independent of Output Voltage
- Output Voltage Programmable Down to 0V
- Output Noise Independent of Output Voltage
- PSRR Independent of Output Voltage
- Parallelable to Spread Heat across PCB

Typical Performance Curves

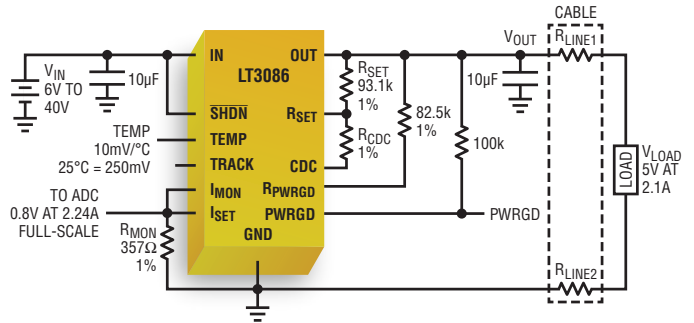


Typical Circuit Configurations

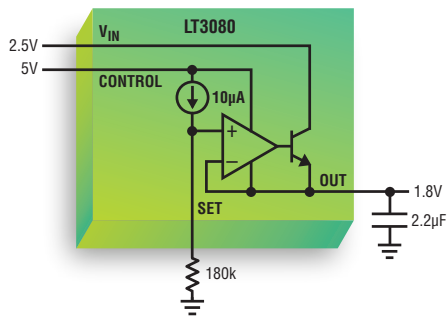
Wide Safe Operating Area Supply



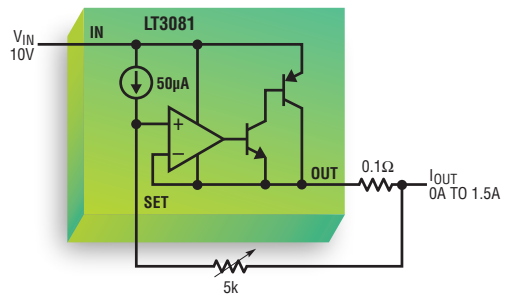
5V, 2.1A USB with Cable Drop Compensation



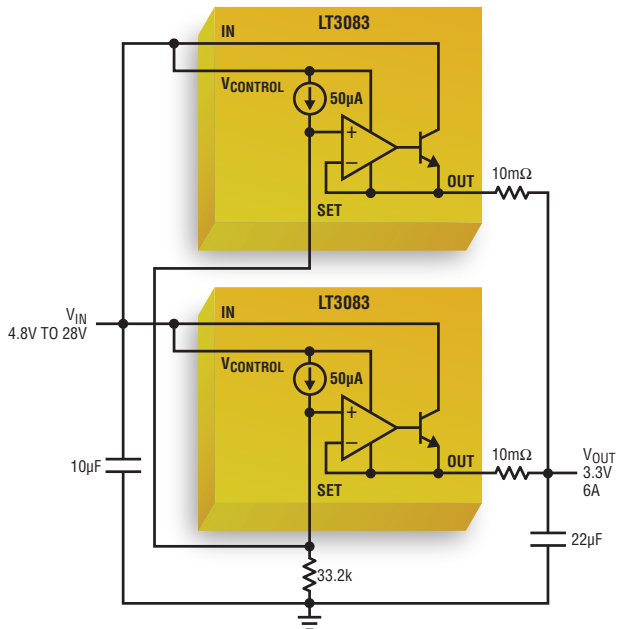
Low Dropout Regulator



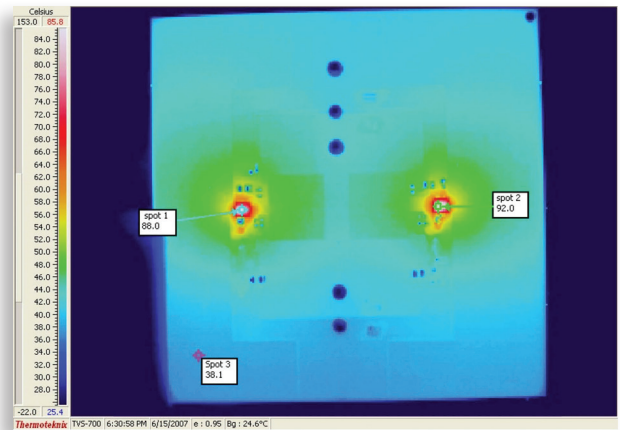
Current Source



Paralleled Regulator



Paralleled Regulators Show Even Heat Spreading*



*NO HEAT SINKS AND NO AIR FLOW