The LT1117 is a positive low dropout regulator designed to provide up to 800mA of output current. The device is available in an adjustable version and fixed output voltages of 2.85V, 3.3V and 5V. The 2.85V version is designed specifically to be used in Active Terminators for the SCSI bus. All internal circuitry is designed to operate down to 1V input to output differential. Dropout voltage is guaranteed at a maximum of 1.2V at 800mA, decreasing at lower load currents. On chip trimming adjusts the reference/output voltage to within ±1%. Current limit is also trimmed in order to minimize the stress on both the regulator and the power source circuitry under overload conditions.

The low profile surface mount SOT-223 package allows the device to be used in applications where space is limited. The LT1117 requires a minimum of 10μF of output capacitance for stability. Output capacitors of this size or larger are normally included in most regulator designs.

Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the LT1117 flows into the load, increasing efficiency.
**ABSOLUTE MAXIMUM RATINGS**

(Note 1)

**Input Voltage**
- Operating Voltage
  - LT1117, LT1117-3.3, LT1117-5: 15V
  - LT1117-2.85: 10V
- Surge Voltage
  - LT1117, LT1117-3.3, LT1117-5: 20V

**Operating Junction Temperature Range**
- C Grade: 0°C to 125°C
- I Grade: −40°C to 125°C

**Storage Temperature Range**: −65°C to 150°C

**Lead Temperature**: (See Soldering Methods)

---

**PIN CONFIGURATION**

**ORDER INFORMATION**

<table>
<thead>
<tr>
<th>LEAD FREE FINISH</th>
<th>TAPE AND REEL</th>
<th>PART MARKING</th>
<th>PACKAGE DESCRIPTION</th>
<th>TEMPERATURE RANGE</th>
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**ORDER INFORMATION**

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<th>LEAD BASED FINISH</th>
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<th>PART MARKING</th>
<th>PACKAGE DESCRIPTION</th>
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<td>LT1117IST#TR</td>
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<td>LT1117CM-5#TR</td>
<td>LT1117CM-5</td>
<td>3-Lead Plastic DD-PAK</td>
<td>0°C to 125°C</td>
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</tbody>
</table>

Consult LTC Marketing for parts specified with wider operating temperature ranges.

For more information on lead free part marking, go to: [http://www.linear.com/leadfree/](http://www.linear.com/leadfree/)

For more information on tape and reel specifications, go to: [http://www.linear.com/tapeandreel/](http://www.linear.com/tapeandreel/)

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**ELECTRICAL CHARACTERISTICS**

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at $T_J = 25°C$.

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Voltage</td>
<td>$I_{OUT} = 10mA$, $(V_{IN} - V_{OUT}) = 2V$, $T_J = 25°C$</td>
<td>1.238</td>
<td>1.250</td>
<td>1.262</td>
<td>V</td>
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<tr>
<td></td>
<td>$10mA \leq I_{OUT} \leq 800mA$, $1.4V \leq (V_{IN} - V_{OUT}) \leq 10V$</td>
<td>1.225</td>
<td>1.250</td>
<td>1.270</td>
<td>V</td>
</tr>
<tr>
<td>Output Voltage</td>
<td>$I_{OUT} = 10mA$, $V_{IN} = 4.85V$, $T_J = 25°C$</td>
<td>2.820</td>
<td>2.850</td>
<td>2.880</td>
<td>V</td>
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<tr>
<td></td>
<td>$0 \leq I_{OUT} \leq 800mA$, $4.25V \leq V_{IN} \leq 10V$</td>
<td>2.790</td>
<td>2.850</td>
<td>2.910</td>
<td>V</td>
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<tr>
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<td>$0 \leq I_{OUT} \leq 500mA$, $V_{IN} = 3.95V$</td>
<td>2.790</td>
<td>2.850</td>
<td>2.910</td>
<td>V</td>
</tr>
<tr>
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<td>$I_{OUT} = 10mA$, $V_{IN} = 5V$, $T_J = 25°C$</td>
<td>3.267</td>
<td>3.300</td>
<td>3.333</td>
<td>V</td>
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<td>$0 \leq I_{OUT} \leq 800mA$, $4.75V \leq V_{IN} \leq 10V$</td>
<td>3.235</td>
<td>3.300</td>
<td>3.365</td>
<td>V</td>
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<tr>
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<td>$I_{OUT} = 10mA$, $V_{IN} = 7V$, $T_J = 25°C$</td>
<td>4.950</td>
<td>5.000</td>
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<td>V</td>
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<td>$0 \leq I_{OUT} \leq 800mA$, $6.5V \leq V_{IN} \leq 12V$</td>
<td>4.900</td>
<td>5.000</td>
<td>5.100</td>
<td>V</td>
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<tr>
<td>Line Regulation</td>
<td>$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 15V$ (Note 2)</td>
<td>●</td>
<td>0.035</td>
<td>0.2</td>
<td>%</td>
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<tr>
<td></td>
<td>$I_{OUT} = 0mA$, $4.25V \leq V_{IN} \leq 10V$ (Note 2)</td>
<td>●</td>
<td>1</td>
<td>6</td>
<td>mV</td>
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<tr>
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<td>$I_{OUT} = 0mA$, $4.75V \leq V_{IN} \leq 15V$ (Note 2)</td>
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<td>6</td>
<td>mV</td>
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<tr>
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<td>$I_{OUT} = 0mA$, $6.5V \leq V_{IN} \leq 15V$ (Note 2)</td>
<td>●</td>
<td>1</td>
<td>10</td>
<td>mV</td>
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<tr>
<td>Load Regulation</td>
<td>$(V_{IN} - V_{OUT}) = 3V$, $10mA \leq I_{OUT} \leq 800mA$ (Note 2)</td>
<td>●</td>
<td>0.1</td>
<td>0.4</td>
<td>%</td>
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<tr>
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<td>$V_{IN} = 4.25V$, $0 \leq I_{OUT} \leq 800mA$ (Note 2)</td>
<td>●</td>
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<td>10</td>
<td>mV</td>
</tr>
<tr>
<td></td>
<td>$V_{IN} = 4.75V$, $0 \leq I_{OUT} \leq 800mA$ (Note 2)</td>
<td>●</td>
<td>1</td>
<td>10</td>
<td>mV</td>
</tr>
<tr>
<td></td>
<td>$V_{IN} = 6.5V$, $0 \leq I_{OUT} \leq 800mA$ (Note 2)</td>
<td>●</td>
<td>1</td>
<td>15</td>
<td>mV</td>
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<tr>
<td>Dropout Voltage</td>
<td>$I_{OUT} = 100mA$, $0°C \leq T_J \leq 125°C$ (Note 3)</td>
<td>1.00</td>
<td>1.10</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>$I_{OUT} = 500mA$, $0°C \leq T_J \leq 125°C$ (Note 3)</td>
<td>1.05</td>
<td>1.15</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>$I_{OUT} = 800mA$, $0°C \leq T_J \leq 125°C$ (Note 3)</td>
<td>1.10</td>
<td>1.20</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>$I_{OUT} = 100mA$, $-40°C \leq T_J &lt; 0°C$ (Note 3)</td>
<td>1.00</td>
<td>1.20</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>$I_{OUT} = 500mA$, $-40°C \leq T_J &lt; 0°C$ (Note 3)</td>
<td>1.05</td>
<td>1.25</td>
<td></td>
<td>V</td>
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<tr>
<td></td>
<td>$I_{OUT} = 800mA$, $-40°C \leq T_J &lt; 0°C$ (Note 3)</td>
<td>1.10</td>
<td>1.30</td>
<td></td>
<td>V</td>
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<tr>
<td>Current Limit</td>
<td>$(V_{IN} - V_{OUT}) = 5V$, $T_J = 25°C$</td>
<td>800</td>
<td>950</td>
<td>1200</td>
<td>mA</td>
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<tr>
<td>Minimum Load Current</td>
<td>$(V_{IN} - V_{OUT}) = 15V$ (Note 4)</td>
<td>●</td>
<td>1.7</td>
<td>5</td>
<td>mA</td>
</tr>
</tbody>
</table>
ELECTRICAL CHARACTERISTICS  The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_J = 25°C.

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
</tr>
</thead>
</table>
| Quiescent Current | LT1117-2.85  
LT1117-3.3  
LT1117-5 | V_IN ≤ 10V  
V_IN ≤ 15V  
V_IN ≤ 15V | 5 | 10 | mA |
| Thermal Regulation | T_A = 25°C, 30ms Pulse | 0.01 | 0.1 | %/W |
| Ripple Rejection | f_RIPPLE = 120Hz, (V_IN – V_OUT) = 3V, V_RIPPLE = 1V_P-P | 60 | 75 | dB |
| Adjust Pin Current | ● | 55 | 120 | μA |
| Adjust Pin Current Change | 10mA ≤ I_OUT ≤ 800mA, 1.4V ≤ (V_IN – V_OUT) ≤ 10V | 0.2 | 5 | μA |
| Temperature Stability | | 0.5 | % |
| Long Term Stability | T_A = 125°C, 1000Hrs | 0.3 | % |
| RMS Output Noise | (% of V_OUT), 10Hz ≤ f ≤ 10kHz | 0.003 | % |
| Thermal Resistance | (Junction-to-Case, at Tab) | 15 | °C/W |

Note 1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

Note 2: See thermal regulation specification for changes in output voltage due to heating effects. Load regulation and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.

Note 3: Dropout voltage is specified over the full output current range of the device. Dropout voltage is defined as the minimum input/output differential measured at the specified output current. Test points and limits are also shown on the Dropout Voltage curve.

Note 4: Minimum load current is defined as the minimum output current required to maintain regulation.

TYPICAL PERFORMANCE CHARACTERISTICS

![Minimum Operating Current](image1.png)  
![Short-Circuit Current](image2.png)  
![Load Regulation](image3.png)
TYPICAL PERFORMANCE CHARACTERISTICS

LT1117 Ripple Rejection

LT1117 Ripple Rejection vs Current

Temperature Stability

Adjust Pin Current

LT1117-2.85 Load Transient Response

LT1117-5 Load Transient Response

LT1117-2.85 Line Transient Response

LT1117-5 Line Transient Response
APPLICATIONS INFORMATION

The LT1117 family of 3-terminal regulators are easy to use. They are protected against short circuit and thermal overloads. Thermal protection circuitry will shut down the regulator should the junction temperature exceed 165°C at the sense point. These regulators are pin compatible with older 3-terminal adjustable regulators, offer lower dropout voltage and more precise reference tolerance. Reference stability over temperature is improved over older types of regulators.

Stability

The LT1117 family of regulators requires an output capacitor as part of the device frequency compensation. A minimum of 10μF of tantalum or 50μF of aluminum electrolytic is required. The ESR of the output capacitor should be less than 0.5Ω. Surface mount tantalum capacitors, which have very low ESR, are available from several manufacturers.

When using the LT1117 adjustable device, the adjust terminal can be bypassed to improve ripple rejection. When the adjust terminal is bypassed, the required value of the output capacitor increases. The device will require an output capacitor of 22μF tantalum or 150μF aluminum electrolytic when the adjust pin is bypassed.

Normally, capacitor values on the order of 100μF are used in the output of many regulators to ensure good load transient response with large load current changes. Output capacitance can be increased without limit and larger values of output capacitance further improve stability and transient response.

Protection Diodes

In normal operation, the LT1117 family does not need any protection diodes. Older adjustable regulators required protection diodes between the adjust pin and the output and between the output and input to prevent over stressing the die. The internal current paths on the LT1117 adjust pin are limited by internal resistors. Therefore, even with capacitors on the adjust pin, no protection diode is needed to ensure device safety under short-circuit conditions. The adjust pin can be driven, on a transient basis, ± 25V with respect to the output without any device degradation.

Diodes between input and output are not usually needed. The internal diode between the output and input pins of the device can withstand microsecond surge currents of 10A to 20A. Normal power supply cycling can not generate currents of this magnitude. Only with extremely large output capacitors, such as 1000μF and larger, and with the input pin instantaneously shorted to ground can damage occur. A crowbar circuit at the input of the LT1117 in combination with a large output capacitor could generate currents large enough to cause damage. In this case a diode from output to input is recommended, as shown in Figure 1.

![Diagram of LT1117 circuit with protection diodes](lt1117_diagram.png)

**Figure 1**: Circuit diagram showing the LT1117 regulator with an optional protection diode (D1) across the adjust pin.
Output Voltage

The LT1117 develops a 1.25V reference voltage between the output and the adjust terminal (see Figure 2). By placing a resistor between these two terminals, a constant current is caused to flow through R1 and down through R2 to set the overall output voltage. Normally this current is chosen to be the specified minimum load current of 10mA. Because $I_{ADJ}$ is very small and constant when compared to the current through R1, it represents a small error and can usually be ignored. For fixed voltage devices R1 and R2 are included in the device.

$$V_{OUT} = V_{REF} \left(1 + \frac{R_2}{R_1}\right) + I_{ADJ} \frac{R_2}{R_1}$$

Figure 2. Basic Adjustable Regulator

Load Regulation

Because the LT1117 is a 3-terminal device, it is not possible to provide true remote load sensing. Load regulation will be limited by the resistance of the wire connecting the regulator to the load. The data sheet specification for load regulation is measured at the output pin of the device. Negative side sensing is a true Kelvin connection, with the bottom of the output divider returned to the negative side of the load.

Although it may not be immediately obvious, best load regulation is obtained when the top of the resistor divider (R1) is returned directly to the output pin of the device, not to the load. This is illustrated in Figure 3. Connected as shown, $R_P$ is not multiplied by the divider ratio. If R1 were connected to the load, the effective resistance between the regulator and the load would be:

$$R_P \times \frac{R_2+R_1}{R_1}$$

Figure 3. Connections for Best Load Regulation

For fixed voltage devices the top of R1 is internally Kelvin connected, and the ground pin can be used for negative side sensing.

Thermal Considerations

LT1117 series regulators have internal thermal limiting circuitry designed to protect the device during overload conditions. For continuous normal load conditions however, the maximum junction temperature rating of 125°C must not be exceeded.

It is important to give careful consideration to all sources of thermal resistance from junction to ambient. For the SOT-223 package, which is designed to be surface mounted, additional heat sources mounted near the device must also be considered. Heat sinking is accomplished using the heat spreading capability of the PC board and its copper traces. The thermal resistance of the LT1117 is 15°C/W from the junction to the tab. Thermal resistances from tab to ambient can be as low as 30°C/W. The total thermal resistance from junction to ambient can be as low as 45°C/W. This requires a reasonable sized PC board with at least one layer of copper to spread the heat across the board and couple it into the surrounding air.
APPLICATIONS INFORMATION

Experiments have shown that the heat spreading copper layer does not need to be electrically connected to the tab of the device. The PC material can be very effective at transmitting heat between the pad area, attached to the tab of the device, and a ground plane layer either inside or on the opposite side of the board. Although the actual thermal resistance of the PC material is high, the Length/Area ratio of the thermal resistor between layers is small. The data in Table 1 was taken using 1/16" FR-4 board with 1oz. copper foil. It can be used as a rough guideline in estimating thermal resistance.

Table 1.

<table>
<thead>
<tr>
<th>COPPER AREA</th>
<th>BOARD AREA</th>
<th>THERMAL RESISTANCE (JUNCTION-TO-AMBIENT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOPSIDE*</td>
<td>BACKSIDE</td>
<td></td>
</tr>
<tr>
<td>2500 Sq. mm</td>
<td>2500 Sq. mm</td>
<td>2500 Sq. mm 45°C/W</td>
</tr>
<tr>
<td>1000 Sq. mm</td>
<td>2500 Sq. mm</td>
<td>2500 Sq. mm 45°C/W</td>
</tr>
<tr>
<td>225 Sq. mm</td>
<td>2500 Sq. mm</td>
<td>2500 Sq. mm 53°C/W</td>
</tr>
<tr>
<td>100 Sq. mm</td>
<td>2500 Sq. mm</td>
<td>2500 Sq. mm 59°C/W</td>
</tr>
<tr>
<td>1000 Sq. mm</td>
<td>1000 Sq. mm</td>
<td>1000 Sq. mm 52°C/W</td>
</tr>
<tr>
<td>1000 Sq. mm</td>
<td>0</td>
<td>1000 Sq. mm 55°C/W</td>
</tr>
</tbody>
</table>

* Tab of device attached to topside copper

The thermal resistance for each application will be affected by thermal interactions with other components on the board. Some experimentation will be necessary to determine the actual value.

The power dissipation of the LT1117 is equal to:

$$P_D = (V_{IN} - V_{OUT})I_{OUT}$$

Maximum junction temperature will be equal to:

$$T_J = T_{A(MAX)} + P_D \cdot (\text{Thermal Resistance (junction-to-ambient)})$$

Maximum junction temperature must not exceed 125°C.

Ripple Rejection

The curves for Ripple Rejection were generated using an adjustable device with the adjust pin bypassed. These curves will hold true for all values of output voltage. For proper bypassing, and ripple rejection approaching the values shown, the impedance of the adjust pin capacitor, at the ripple frequency, should be < R1. R1 is normally in the range of 100Ω to 200Ω. The size of the required adjust pin capacitor is a function of the input ripple frequency. At 120Hz, with R1 = 100Ω, the adjust pin capacitor should be >13μF. At 10kHz only 0.16μF is needed.

For fixed voltage devices, and adjustable devices without an adjust pin capacitor, the output ripple will increase as the ratio of the output voltage to the reference voltage ($V_{OUT}/V_{REF}$). For example, with the output voltage equal to 5V, the output ripple will be increased by the ratio of 5V/1.25V. It will increase by a factor of four. Ripple rejection will be degraded by 12dB from the value shown on the curve.
**TYPICAL APPLICATIONS**

**1.2V to 10V Adjustable Regulator**

- **LT1117**
  - IN
  - OUT
  - ADJ

- **VIN**
  - +

- **R1**
  - 121Ω

- **C1**
  - 10µF

- **C2**
  - 100µF

- **R2**
  - 1k

- **VOUT†**

- **†VOUT = 1.25V \left(1 + \frac{R2}{R1}\right)**

*NEEDED IF DEVICE IS FAR FROM FILTER CAPACITORS*

**Remote Sensing**

- **LT1117**
  - IN
  - OUT
  - ADJ

- **VIN**
  - +

- **RP**
  - (MAX. DROP 300mV)

- **VOUT**
  - OUT

- **RETURN**

**Adjusting Output Voltage of Fixed Regulators**

- **LT1117-5**
  - IN
  - OUT
  - **VIN**
  - GND

- **10µF**

- **100µF**

*OPTIONAL IMPROVES RIPPLE REJECTION*

**5V Regulator with Shutdown**

- **LT1117**
  - IN
  - OUT
  - ADJ

- **VIN**
  - +

- **10µF**

- **1k**

- **2N3904**

- **121Ω**

- **1%**

- **365Ω**

- **1%**

**Regulator with Reference**

- **LT1117-5**
  - IN
  - OUT
  - GND

- **VIN**
  - OUT

- **5VOUT**

- **LT1029**

- **5V**

- **10µF**

- **100µF**

**LT1117/LT1117-2.85
LT1117-3.3/LT1117-5**
TYPICAL APPLICATIONS

Battery Charger

Battery Backed Up Regulated Supply

Improving Ripple Rejection

Automatic Light Control

High Efficiency Dual Supply
High Efficiency Dual Linear Supply

Low Dropout Negative Supply

* = 1% FILM RESISTORS
MDA = MOTOROLA
L1 = PULSE ENGINEERING, INC. #PE-92106
PACKAGE DESCRIPTION

M Package
3-Lead Plastic DD Pak
(Reference LTC DWG # 05-08-1460)

BOTTOM VIEW OF DD PAK
HATCHED AREA IS SOLDER PLATED COPPER HEAT SINK

RECOMMENDED SOLDER PAD LAYOUT
FOR THICKER SOLDER PASTE APPLICATIONS

NOTE:
1. DIMENSIONS IN INCH/(MILLIMETER)
2. DRAWING NOT TO SCALE
ST Package
3-Lead Plastic SOT-223
(Reference LTC DWG # 05-08-1630)
**REVISION HISTORY** *(Revision history begins at Rev D)*

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<tr>
<th>REV</th>
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<tr>
<td>D</td>
<td>4/10</td>
<td>Updated DD-Pak part markings in Order Information section and revised all other sections.</td>
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Information furnished by Linear Technology Corporation is believed to be accurate and reliable. However, no responsibility is assumed for its use. Linear Technology Corporation makes no representation that the interconnection of its circuits as described herein will not infringe on existing patent rights.
## Related Parts

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<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>COMMENTS</th>
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<tr>
<td>LT1118</td>
<td>Low $I_Q$, Low Dropout, 800mA, Source and Sink Regulators</td>
<td>Sources and Sinks Current, 600mA Quiescent Current, Dropout Voltage: 1V, SOIC-8 and SOT-223 Packages</td>
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<tr>
<td>LT1129</td>
<td>700mA Micropower Low Dropout Regulator</td>
<td>$50\mu A$ Quiescent Current</td>
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<tr>
<td>LT1763</td>
<td>500mA, Low Noise LDO</td>
<td>300mV Dropout Voltage, Low Noise: $20\mu V_{RMS}$, $V_{IN} = 1.8V$ to 20V, SO-8 Package</td>
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<tr>
<td>LT1764, LT1764A</td>
<td>3A, Fast Transient Response, Low Noise LDO</td>
<td>340mV Dropout Voltage, Low Noise: $40\mu V_{RMS}$, $V_{IN} = 2.7V$ to 20V, TO-220 and DD Packages “A” version stable also with ceramic caps</td>
</tr>
<tr>
<td>LT1963, LT1963A</td>
<td>1.5A Low Noise, Fast Transient Response LDO</td>
<td>340mV Dropout Voltage, Low Noise: $40\mu V_{RMS}$, $V_{IN} = 2.5V$ to 20V, “A” version stable with ceramic caps, TO-220, DD, SOT-223 and SO-8 Packages</td>
</tr>
<tr>
<td>LT1965</td>
<td>1.1A, Low Noise, Low Dropout Linear Regulator</td>
<td>290mV Dropout Voltage, Low Noise: $40\mu V_{RMS}$, $V_{IN} = 1.8V$ to 20V, $V_{OUT}$ 1.2V to 19.5V, stable with ceramic caps, TO-220, DDPak, MSOP and 3 × 3 DFN Packages</td>
</tr>
<tr>
<td>LT3021</td>
<td>500mA, Low Voltage, VLDO Linear Regulator</td>
<td>$V_{IN}$: 0.9V to 10V, Dropout Voltage: 160mV Typical, Adjustable Output ($V_{REF} = V_{OUT(MIN)} = 200mV$), Fixed Output Voltages: 1.2V, 1.5V, 1.8V, Stable with Low ESR, Ceramic Output Capacitors 16-Pin DFN (5mm × 5mm) and 8-Lead SO Packages</td>
</tr>
<tr>
<td>LT3080, LT3080-1</td>
<td>1.1A, Parallelable, Low Noise, Low Dropout Linear Regulator</td>
<td>300mV Dropout Voltage (2-supply operation), Low Noise: $40\mu V_{RMS}$, $V_{IN}$: 1.2V to 36V, $V_{OUT}$ 0V to 35.7V, current-based reference with 1-resistor $V_{OUT}$ set; directly parallelable (no op amp required), stable with ceramic caps, TO-220, SOT-223, MS8E and 3 × 3 DFN-8 Packages; “-1” version has integrated internal ballast resistor</td>
</tr>
<tr>
<td>LT3085</td>
<td>500mA, Parallelable, Low Noise, Low Dropout Linear Regulator</td>
<td>275mV Dropout Voltage (2-supply operation), Low Noise: $40\mu V_{RMS}$, $V_{IN}$: 1.2V to 36V, $V_{OUT}$ 0V to 35.7V, current-based reference with 1-resistor $V_{OUT}$ set; directly parallelable (no op amp required), stable with ceramic caps, MS8E and 2 × 3 DFN-6 packages</td>
</tr>
<tr>
<td>LTC3025-1, LTC3025-2, LTC3025-3, LTC3025-4</td>
<td>500mA Micropower VLDO Linear Regulator in 2 × 2 DFN</td>
<td>$V_{IN}$ = 0.9V to 5.5V, Dropout Voltage: 75mV, Low Noise $80\mu V_{RMS}$, Low $I_Q$: 54µA, Fixed Output: 1.2V (LTC3025-2), 1.5V (LTC3025-3), 1.8V (LTC3025-4); Adjustable Output Range: 0.4V to 3.6V (LTC3025-1), 2mm × 2mm 6-Lead DFN Package</td>
</tr>
<tr>
<td>LTC3026</td>
<td>1.5A, Low Input Voltage VLDO Linear Regulator</td>
<td>$V_{IN}$: 1.14V to 3.5V (Boost Enabled), 1.14V to 5.5V (with External 5V), $V_{DO}$ = 0.1V, $I_Q$ = 950µA, Stable with 10µF Ceramic Capacitors, 10-Lead MSOP-E and DFN-10 Packages</td>
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