



LR1116/B

LINEAR INTEGRATED CIRCUIT

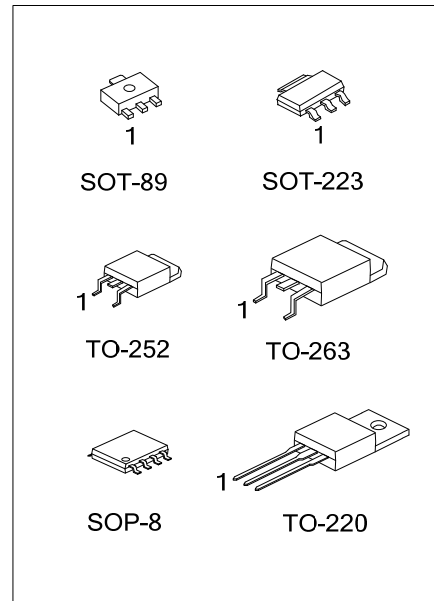
LOW DROP POSITIVE VOLTAGE REGULATORS

■ DESCRIPTION

The UTC **LR1116/B** is a low drop voltage regulator able to provide up to 0.8/0.5A of output current. Output consists of PNP power transistor. So that dropout voltage can be extremely low.

■ FEATURES

- * 2.85V Device are Suitable for SCSI-2 Active Termination
- * Output Current up to 0.8/0.5A
- * Internal Current and Thermal Limit



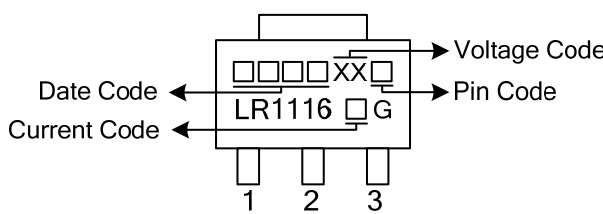
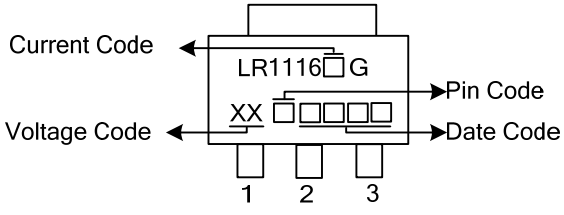
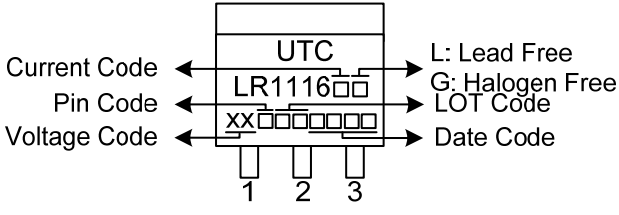
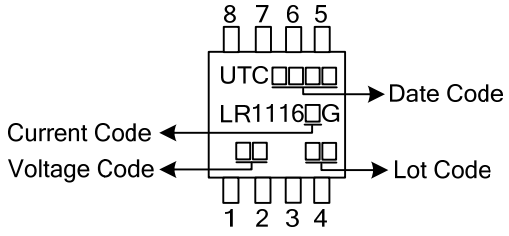
■ ORDERING INFORMATION

| Ordering Number | | Package | ② Pin Assignment | | | ③ Packing |
|---------------------|---------------------|---------|------------------|---|---|-------------------------|
| Lead Free | Halogen Free | | Pin Code | 1 | 2 | |
| - | LR1116①G-xx-AA3-②-③ | SOT-223 | A | G | O | T: Tube R: Tape Reel |
| - | LR1116①G-xx-AB3-②-③ | SOT-89 | B | O | G | |
| LR1116①L-xx-TA3-②-③ | LR1116①G-xx-TA3-②-③ | TO-220 | C | G | I | |
| LR1116①L-xx-TN3-②-③ | LR1116①G-xx-TN3-②-③ | TO-252 | D | I | O | |
| LR1116①L-xx-TQ2-②-③ | LR1116①G-xx-TQ2-②-③ | TO-263 | GOOIxOOx | | | |
| - | LR1116①G-xx-S08-R | SOP-8 | GOOIxOOx | | | |

- Notes: 1. ①: Current code: Blank: 0.8A B: 0.5A
 2. Pin Assignment: I: V_{IN} O: V_{OUT} G: GND x: NC
 3. xx: Output Voltage, Refer to Marking Information.

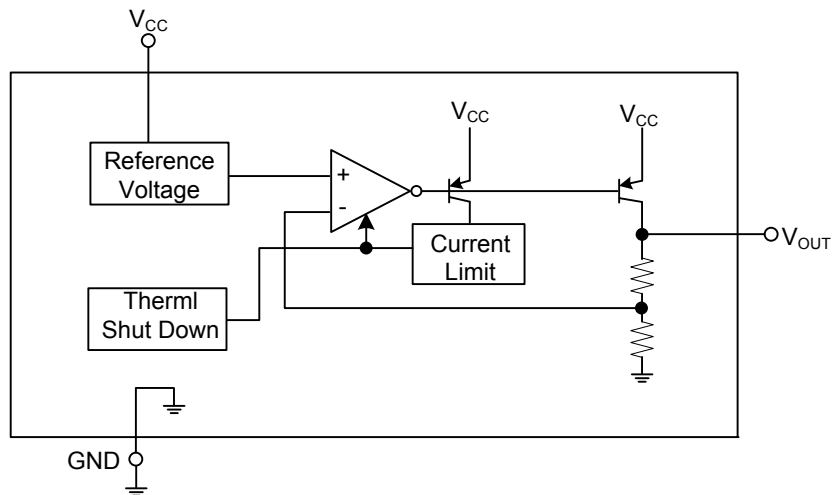
| | |
|----------------------------|--|
| <p>LR1116①G-xx-AA3-②-③</p> | <p>(1) T: Tube, R: Tape Reel (2) Refer to Pin Assignment (3) AA3: SOT-223, AB3: SOT-89, TA3: TO-220 TN3: TO-252, TQ2: TO-263, S08: SOP-8 (4) xx: Refer to Marking Information (5) G: Halogen Free and Lead Free, L: Lead Free (6) Blank: 0.8A, B: 0.5A</p> |
|----------------------------|--|

MARKING INFORMATION

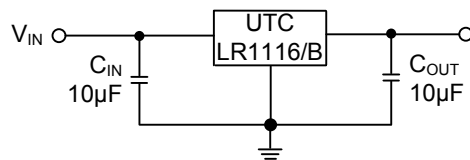
| PACKAGE | VOLTAGE CODE | MARKING |
|----------------------------|--|--|
| SOT-89 | 12 : 1.2V 15 : 1.5V 18 : 1.8V 25 : 2.5V 2J : 2.85V 30 : 3.0V 33 : 3.3V 36 : 3.6V 50 : 5.0V |  |
| SOT-223 | |  |
| TO-220 TO-252 TO-263 | |  |
| SOP-8 | |  |

Note: Current code: Blank: 0.8A B: 0.5A

■ BLOCK DIAGRAM



■ APPLICATION CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | RATINGS | UNIT |
|--------------------------------|-----------|------------|------|
| DC Input Voltage | V_{IN} | 15 | V |
| Operating Junction Temperature | T_{OPR} | -40 ~ +85 | °C |
| Storage Temperature | T_{STG} | -40 ~ +150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
 Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|------------------|----------------|---------|------|
| Junction to Case | SOT-223/SOT-89 | 15 | °C/W |
| | SOP-8 | 20 | °C/W |
| | TO-252 | 8 | °C/W |
| | TO-220/TO-263 | 4 | °C/W |

■ ELECTRICAL CHARACTERISTICS

($T_A=25^\circ\text{C}$, refer to the test circuits, $T_J=-0 \sim 125^\circ\text{C}$, $C_O=10\mu\text{F}$, unless otherwise specified).

For LR1116/B-1.2V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|---|---------|------|-------|---------------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5\text{V}$, $I_{OUT}=10\text{mA}$, $T_J=25^\circ\text{C}$ | 1.176 | 1.2 | 1.224 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2\text{V})\sim 15\text{V}$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 1.176 | 1.2 | 1.224 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2\text{V})\sim 15\text{V}$, $I_{OUT}=0\text{mA}$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2\text{V}$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^\circ\text{C}$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100\text{mA}$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10\text{V}$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5\text{V}$, $T_J=25^\circ\text{C}$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10\text{Hz}\sim 10\text{KHz}$, $T_J=25^\circ\text{C}$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40\text{mA}$, $f=120\text{Hz}$, $T_J=25^\circ\text{C}$ $V_{IN}=V_{OUT}+2.5\text{V}$, $V_{RIPPLE}=1\text{V}_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100\text{mA}$ | | 0.9 | 1.0 | V |
| | | $I_{OUT}=500\text{mA}$ | | 1.1 | 1.3 | V |
| | | $I_{OUT}=800\text{mA}$ (only for LR1116) | | 1.2 | 1.4 | V |
| Thermal Regulation | | $T_A=25^\circ\text{C}$, 30ms Pulse | | 0.01 | 0.10 | %/W |

■ ELECTRICAL CHARACTERISTICS (Cont.)

For LR1116/B-1.5V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 1.470 | 1.5 | 1.530 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 1.470 | 1.5 | 1.530 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz\sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.6 | 0.75 | V |
| | | $I_{OUT}=500mA$ | | 0.80 | 0.95 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.95 | 1.1 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

For LR1116/B-1.8V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 1.764 | 1.8 | 1.836 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 1.764 | 1.8 | 1.836 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz\sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.4 | 0.5 | V |
| | | $I_{OUT}=500mA$ | | 0.6 | 0.8 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.8 | 0.95 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

■ ELECTRICAL CHARACTERISTICS (Cont.)

For LR1116/B-2.5V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V$, $I_{OUT}=10mA$, $T_J=25^{\circ}C$ | 2.450 | 2.5 | 2.550 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 2.45 | 2.5 | 2.55 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$, $I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V$, $T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz\sim 10KHz$, $T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA$, $f=120Hz$, $T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V$, $V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}=500mA$ | | 0.4 | 0.6 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C$, 30ms Pulse | | 0.01 | 0.10 | %/W |

For LR1116/B-2.85V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V$, $I_{OUT}=10mA$, $T_J=25^{\circ}C$ | 2.793 | 2.85 | 2.907 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 2.793 | 2.85 | 2.907 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$, $I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V$, $T_J=25V$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz\sim 10KHz$, $T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA$, $f=120Hz$, $T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V$, $V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}=500mA$ | | 0.45 | 0.6 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C$, 30ms Pulse | | 0.01 | 0.10 | %/W |

■ ELECTRICAL CHARACTERISTICS (Cont.)

For LR1116/B-3.0V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 2.940 | 3.0 | 3.060 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 2.940 | 3.0 | 3.060 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz \sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}= 100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}= 500mA$ | | 0.45 | 0.6 | V |
| | | $I_{OUT}= 800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

For LR1116/B-3.3V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 3.234 | 3.3 | 3.366 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 3.234 | 3.3 | 3.366 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz \sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}= 100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}= 500mA$ | | 0.4 | 0.6 | V |
| | | $I_{OUT}= 800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

■ ELECTRICAL CHARACTERISTICS (Cont.)

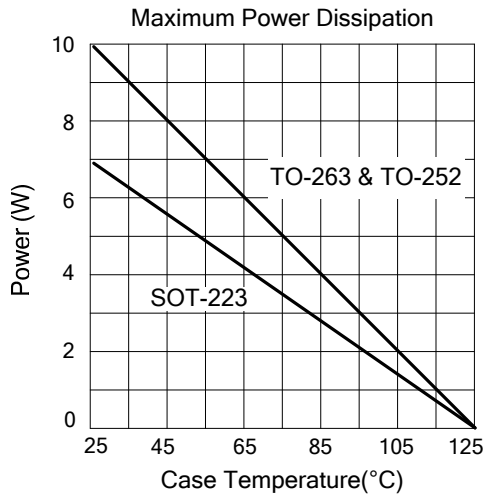
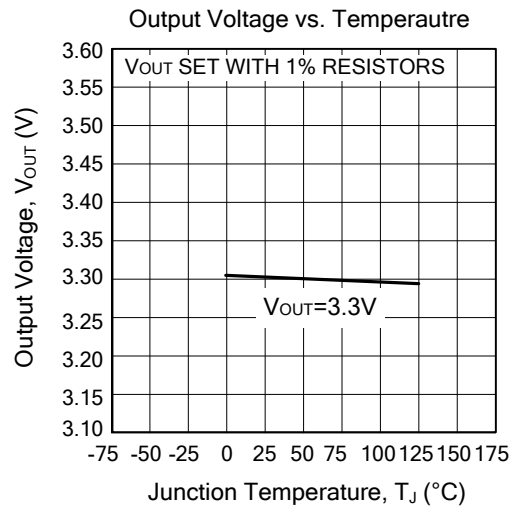
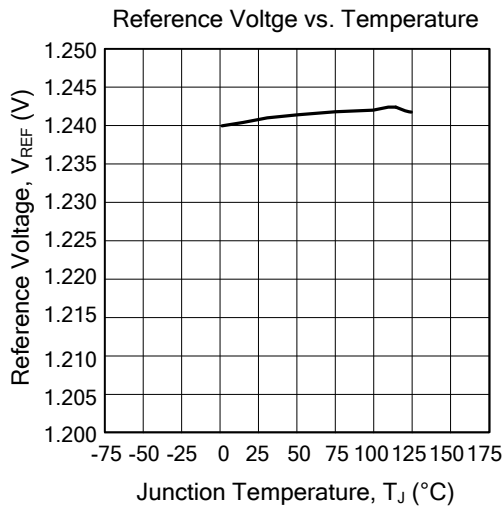
For LR1116/B-3.6V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|-------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 3.528 | 3.6 | 3.672 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 3.528 | 3.6 | 3.672 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz \sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}=500mA$ | | 0.4 | 0.6 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

For LR1116/B-5.0V

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------------------------|------------------|--|---------|------|------|---------|
| Output Voltage | V_{OUT} | $V_{IN}=V_{OUT}+1.5V, I_{OUT}=10mA, T_J=25^{\circ}C$ | 4.90 | 5.0 | 5.10 | V |
| Output Voltage | V_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | 4.90 | 5.0 | 5.10 | V |
| Line Regulation | ΔV_{OUT} | $V_{IN}=(V_{OUT}+2V)\sim 15V, I_{OUT}=0mA$ | | 0.1 | 0.6 | % |
| Load Regulation | ΔV_{OUT} | $V_{IN}=V_{OUT}+2V$ LR1116 : $I_{OUT}=0$ to 800mA LR1116B : $I_{OUT}=0$ to 500mA | | 2 | 3 | % |
| Temperature Stability | ΔV_{OUT} | | | 0.5 | | % |
| Long Term Stability | ΔV_{OUT} | 1000 hrs, $T_J=125^{\circ}C$ | | 0.3 | | % |
| Operating Input Voltage | V_{IN} | $I_{OUT}=100mA$ | | | 15 | V |
| Quiescent Current | I_D | $V_{IN}\leq 10V$ | | 5 | 10 | mA |
| Output Current | I_{OUT} | $V_{IN}=V_{OUT}+4.5V, T_J=25^{\circ}C$ | LR1116 | 800 | 950 | mA |
| | | | LR1116B | 500 | 650 | mA |
| Output Noise Voltage | e_N | $B=10Hz \sim 10KHz, T_J=25^{\circ}C$ | | 100 | | μV |
| Supply Voltage Rejection | SVR | $I_{OUT}=40mA, f=120Hz, T_J=25^{\circ}C$ $V_{IN}=V_{OUT}+2.5V, V_{RIPPLE}=1V_{PP}$ | 60 | 75 | | dB |
| Dropout Voltage | V_D | $I_{OUT}=100mA$ | | 0.16 | 0.3 | V |
| | | $I_{OUT}=500mA$ | | 0.4 | 0.6 | V |
| | | $I_{OUT}=800mA$ (only for LR1116) | | 0.6 | 0.8 | V |
| Thermal Regulation | | $T_A=25^{\circ}C, 30ms$ Pulse | | 0.01 | 0.10 | %/W |

TYPICAL PERFORMANCE CHARACTERISTICS



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