# LOW DROPOUT LINEAR REGULATOR AZ1117B

## General Description

The AZ1117B is a low dropout three-terminal regulator.

The AZ1117B has been optimized for low voltage where transient response and minimum input voltage are critical. It provides current limit and thermal shutdown. Its circuit includes a trimmed bandgap reference to assure output voltage accuracy to be within ±1%. On-chip thermal shutdown provides protection against a combination of high current and ambient temperature that would create excessive junction temperature.

The AZ1117B is available in 1.2V, 1.5V, 1.8V, 2.5V, 3.3V, 5.0V fixed output voltage vesions and ADJ output voltage version. The fixed versions integrate the adjust resistors. It is also available in an adjustable version which can set the output voltage with two external resistors.

The AZ1117B is available in the industry-standard TO-252-2 (1), TO-252-2 (2), TO-252-2 (3), SOT-223 and SOT-89 power packages.

## Features

- Current Limit: 1.0A (Typ.)
- Output Noise from 10Hz to 10KHz: 0.003% of $V_{OUT}$
- PSRR at $I_{OUT}$=300mA and f=120Hz: 70dB
- Output Voltage Accuracy: ±1%
- On-chip Thermal Shutdown
- Maximum Quiescent Current: $I_{QMAX}$=6mA
- Operation Junction Temperature: -20 to 125°C

## Applications

- USB Device
- Add-on Card
- DVD Player
- PC Motherboard

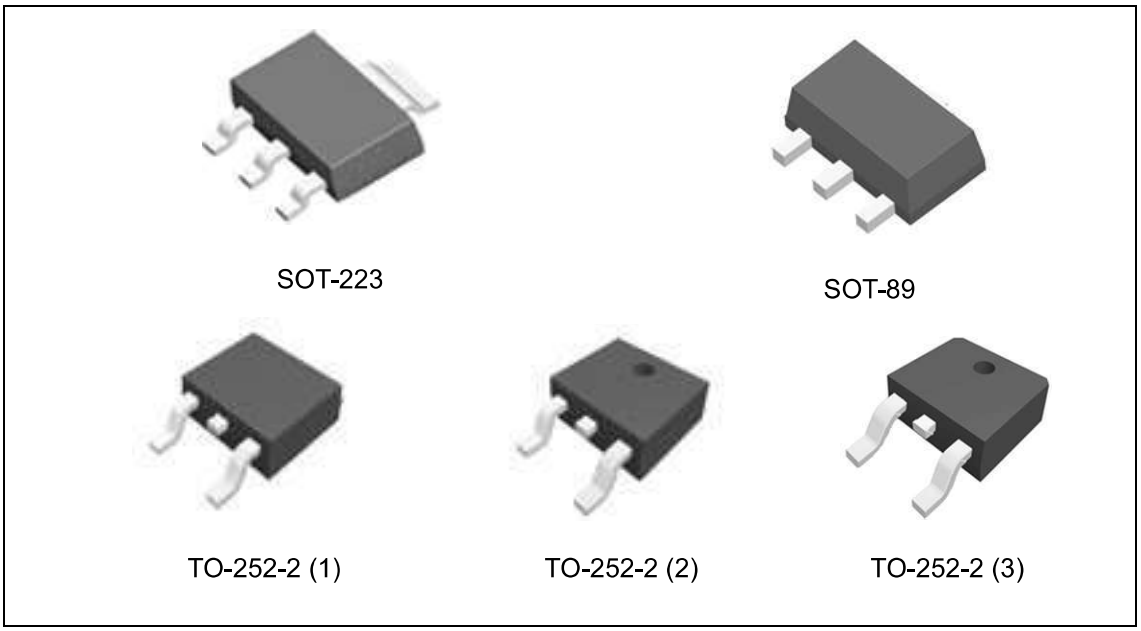



Figure 1. Package Type of AZ1117B

## Pin Configuration

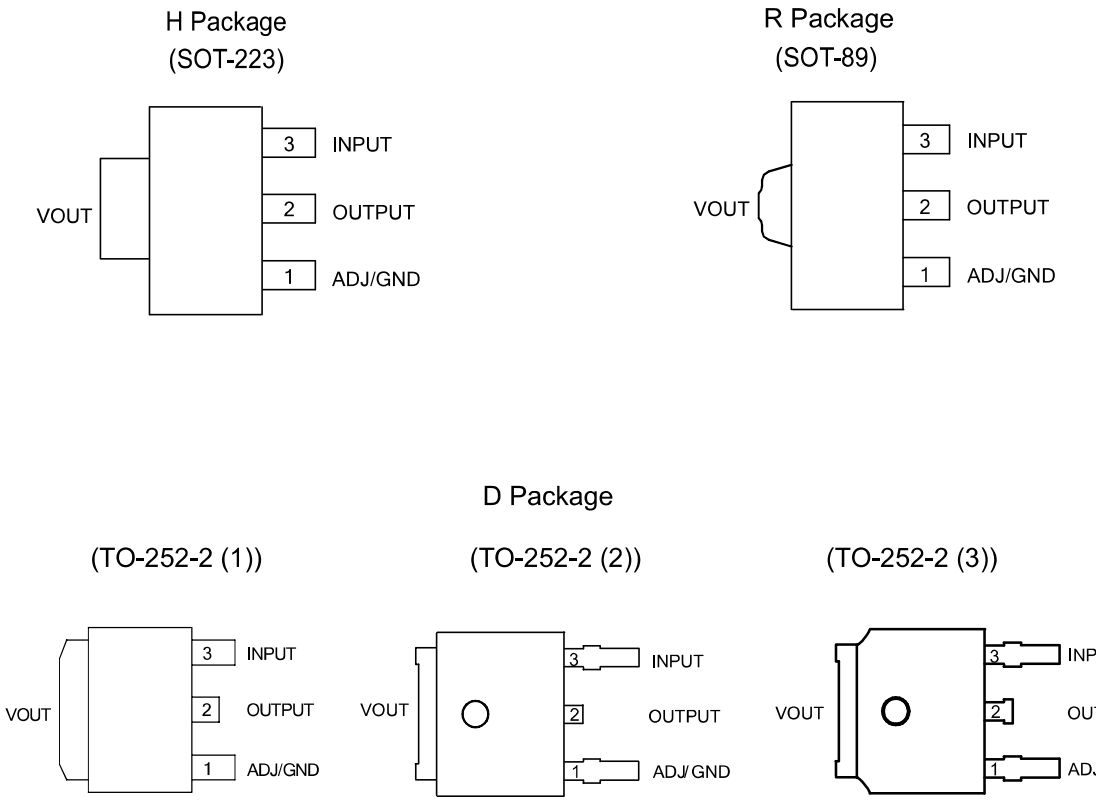



Figure 2. Pin Configuration of AZ1117B (Top View)

## Functional Block Diagram

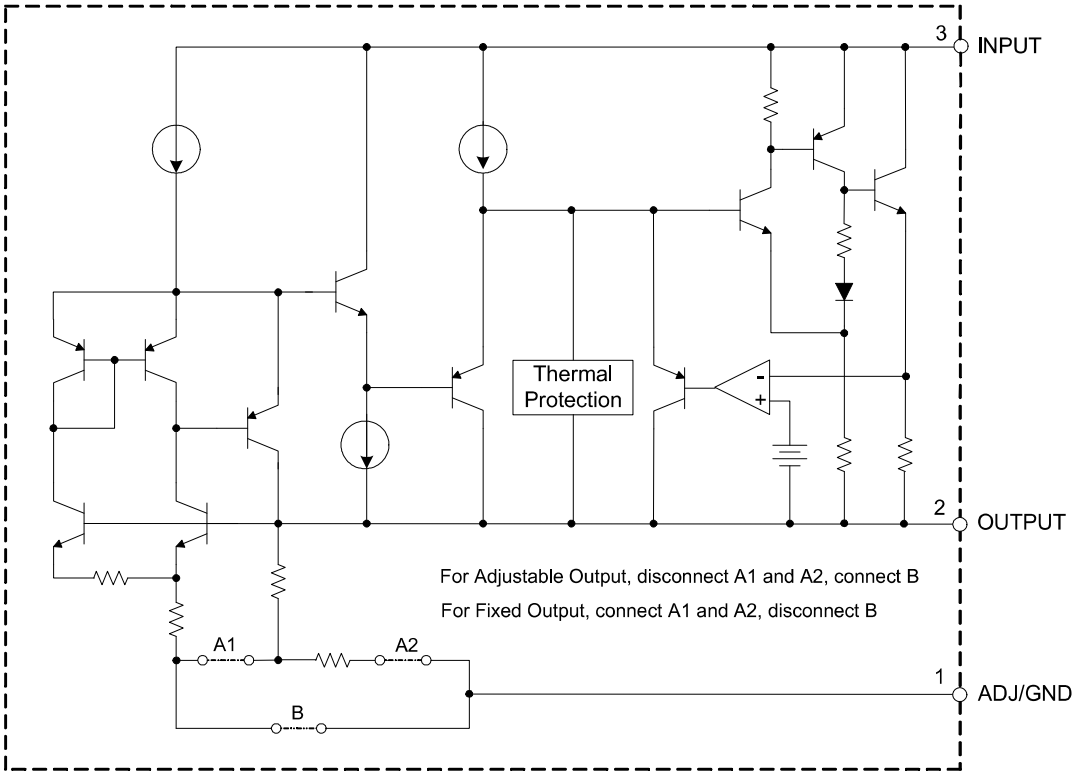
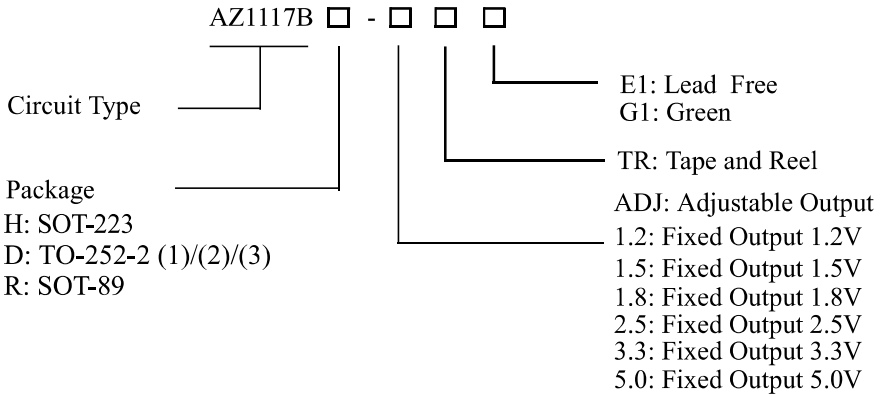



Figure 3. Functional Block Diagram of AZ1117B

## Ordering Information




| Package | Tempera-ture Range | Part Number | | Marking ID | | Packing Type |
|---|---|---|---|---|---|---|
| | | Lead Free | Green | Lead Free | Green | |
| SOT-223 | -20 to 125°C | AZ1117BH-ADJTRE1 | AZ1117H-ADJTRG1 | EH17K | GH17K | Tape & Reel |
| | | AZ1117BH-1.2TRE1 | AZ1117H-1.2TRG1 | EH17P | GH17P | Tape & Reel |
| | | AZ1117BH-1.5TRE1 | AZ1117H-1.5TRG1 | EH17Q | GH17Q | Tape & Reel |
| | | AZ1117BH-1.8TRE1 | AZ1117H-1.8TRG1 | EH17L | GH17L | Tape & Reel |
| | | AZ1117BH-2.5TRE1 | AZ1117H-2.5TRG1 | EH17N | GH17N | Tape & Reel |
| | | AZ1117BH-3.3TRE1 | AZ1117H-3.3TRG1 | EH17M | GH17M | Tape & Reel |
| | | AZ1117BH-5.0TRE1 | AZ1117H-5.0TRG1 | EH17R | GH17R | Tape & Reel |
| TO-252-2 (1)/ TO-252-2 (2)/ TO-252-2 (3) | -20 to 125°C | AZ1117BD-ADJE1 | AZ1117D-ADJG1 | AZ1117BD-ADJE1 | AZ1117D-ADJG1 | Tube |
| | | AZ1117BD-ADJTRE1 | AZ1117D-ADJTRG1 | AZ1117BD-ADJE1 | AZ1117D-ADJG1 | Tape & Reel |
| | | AZ1117BD-1.2E1 | AZ1117D-1.2G1 | AZ1117BD-1.2E1 | AZ1117D-1.2G1 | Tube |
| | | AZ1117BD-1.2TRE1 | AZ1117D-1.2TRG1 | AZ1117BD-1.2E1 | AZ1117D-1.2G1 | Tape & Reel |
| | | AZ1117BD-1.5E1 | AZ1117D-1.5G1 | AZ1117BD-1.5E1 | AZ1117D-1.5G1 | Tube |
| | | AZ1117BD-1.5TRE1 | AZ1117D-1.5TRG1 | AZ1117BD-1.5E1 | AZ1117D-1.5G1 | Tape & Reel |
| | | AZ1117BD-1.8E1 | AZ1117D-1.8G1 | AZ1117BD-1.8E1 | AZ1117D-1.8G1 | Tube |
| | | AZ1117BD-1.8TRE1 | AZ1117D-1.8TRG1 | AZ1117BD-1.8E1 | AZ1117D-1.8G1 | Tape & Reel |
| | | AZ1117BD-2.5E1 | AZ1117D-2.5G1 | AZ1117BD-2.5E1 | AZ1117D-2.5G1 | Tube |
| | | AZ1117BD-2.5TRE1 | AZ1117D-2.5TRG1 | AZ1117BD-2.5E1 | AZ1117D-2.5G1 | Tape & Reel |
| | | AZ1117BD-3.3E1 | AZ1117D-3.3G1 | AZ1117BD-3.3E1 | AZ1117D-3.3G1 | Tube |
| | | AZ1117BD-3.3TRE1 | AZ1117D-3.3TRG1 | AZ1117BD-3.3E1 | AZ1117D-3.3G1 | Tape & Reel |
| | | AZ1117BD-5.0E1 | AZ1117D-5.0G1 | AZ1117BD-5.0E1 | AZ1117D-5.0G1 | Tube |
| | | AZ1117BD-5.0TRE1 | AZ1117D-5.0TRG1 | AZ1117BD-5.0E1 | AZ1117D-5.0G1 | Tape & Reel |

## Ordering Information (Continued)

| Package | Temperature Range | Part Number | | Marking ID | | Packing Type |
|---|---|---|---|---|---|---|
| | | Lead Free | Green | Lead Free | Green | |
| SOT-89 | -20 to 125°C | AZ1117BR-ADJTRE1 | AZ1117R-ADJTRG1 | E31F | G31F | Tape & Reel |
| | | AZ1117BR-1.2TRE1 | AZ1117R-1.2TRG1 | E31G | G31G | Tape & Reel |
| | | AZ1117BR-1.5TRE1 | AZ1117R-1.5TRG1 | E31H | G31H | Tape & Reel |
| | | AZ1117BR-1.8TRE1 | AZ1117R-1.8TRG1 | E31J | G31J | Tape & Reel |
| | | AZ1117BR-2.5TRE1 | AZ1117R-2.5TRG1 | E31K | G31K | Tape & Reel |
| | | AZ1117BR-3.3TRE1 | AZ1117R-3.3TRG1 | E31L | G31L | Tape & Reel |
| | | AZ1117BR-5.0TRE1 | AZ1117R-5.0TRG1 | E31M | G31M | Tape & Reel |

BCD Semiconductor's Pb-free products, as designated with "E1" suffix in the part number, are RoHS compliant. Products with "G1" suffix are available in green packages.

## Absolute Maximum Ratings (Note 1)

| Parameter | Symbol | Value | | Unit |
|---|---|---|---|---|
| Input Voltage | $V_{IN}$ | 18 | | V |
| Operating Junction Temperature Range | $T_J$ | 150 | | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to 150 | | °C |
| Thermal Resistance (No Heatsink) | $\theta_{JA}$ | SOT-223 | 150 | °C/W |
| | | TO-252-2(1)/TO-252-2(2) TO-252-2(3) | 128 | |
| | | SOT-89 | 210 | |
| Lead Temperature (Soldering, 10sec) | $T_{LEAD}$ | 260 | | °C |

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

## Recommended Operating Conditions

| Parameter | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Input Voltage | $V_{IN}$ | | 15 | V |
| Operating Junction Temperature Range | $T_J$ | -20 | 125 | °C |

## Electrical Characteristics

### AZ1117B-ADJ Electrical Characteristics

Operating Conditions: $V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $T_J=25^oC$, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, $-20^oC$ to $125^oC$.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Uni |
|---|---|---|---|---|---|---|---|
| Reference Voltage | $V_{REF}$ | | | 1.238 | 1.250 | 1.262 | V |
| | | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | **1.225** | 1.250 | **1.270** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.001 | 0.1 | % |
| | | | | | | **0.2** | |
| Load Regulation | $V_{RLOAD}$ | | | | 0.4 | 1.0 | % |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{REF}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Adjust Pin Current | | | | | 60 | **120** | μA |
| Adjust Pin Current Change | | 1.5V≤($V_{IN}$-$V_{OUT}$)≤10V | | | 0.2 | **5** | μA |
| Minimum Load Current | | 1.5V≤($V_{IN}$-$V_{OUT}$)≤10V | | | 1.7 | **5** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A=25^oC$, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | $^oC$ |
| Thermal Shutdown Hysteresis | | | | | 16 | | $^oC$ |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | $^oC$/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-1.2 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 1.176 | 1.2 | 1.224 | V |
| | | 3.2V≤$V_{IN}$≤10V | | **1.152** | 1.2 | **1.228** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-1.5 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 1.485 | 1.5 | 1.515 | V |
| | | 3.5V≤$V_{IN}$≤10V | | **1.470** | 1.5 | **1.530** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-1.8 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 1.782 | 1.8 | 1.818 | V |
| | | 3.8V≤$V_{IN}$≤10V | | **1.764** | 1.8 | **1.836** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-2.5 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 2.475 | 2.5 | 2.525 | V |
| | | 4.5V≤$V_{IN}$≤10V | | **2.455** | **2.5** | **2.545** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-3.3 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 3.267 | 3.3 | 3.333 | V |
| | | 5.3V≤$V_{IN}$≤10V | | **3.235** | 3.3 | **3.365** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF ($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Electrical Characteristics (Continued)

### AZ1117B-5.0 Electrical Characteristics

Operating Conditions: $V_{IN}$≤10V, $I_{OUT}$=10mA, $T_J$=25°C, unless otherwise specified. (P≤maximum power dissipation). Limits appearing in **Boldface** type apply over the entire junction temperature range for operation, -20°C to 125°C.

| Parameter | Symbol | Conditions | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | | | 4.950 | 5.0 | 5.050 | V |
| | | 6.5V≤$V_{IN}$≤10V | | **4.900** | 5.0 | **5.100** | |
| Line Regulation | $V_{RLINE}$ | 1.5V≤$V_{IN}$-$V_{OUT}$≤10V | | | 0.5 | 6 | mV |
| | | | | | | **10** | |
| Load Regulation | $V_{RLOAD}$ | | | | 2 | 15 | mV |
| Dropout Voltage | $V_{DROP}$ | $\Delta V_{OUT}$=1%, $I_{OUT}$=0.8A | SOT-223 | | 1.2 | **1.3** | V |
| | | | TO-252-2(1)/(2)/(3) | | 1.4 | | |
| | | | SOT-89 | | 1.2 | | |
| Current Limit | $I_{LIMIT}$ | | | 0.85 | 1 | 1.15 | A |
| Quiescent Current | $I_Q$ | $I_{OUT}$=0 | | | 4 | **6** | mA |
| Ripple Rejection | PSRR | f=120Hz, $C_{OUT}$=22μF<br>($V_{IN}$-$V_{OUT}$)=3V, $I_{OUT}$=300mA | | | 70 | | dB |
| Temperature Stability | | | | | 0.5 | | % |
| RMS Output Noise (% of $V_{OUT}$) | | $T_A$=25°C, 10Hz≤f≤10KHz | | | 0.003 | | % |
| Thermal Shutdown | | Junction Temperature | | | 160 | | °C |
| Thermal Shutdown Hysteresis | | | | | 16 | | °C |
| Thermal Resistance | $\theta_{JC}$ | SOT-223 | | | 33 | | °C/W |
| | | TO-252-2 (1)/TO-252-2 (2)/TO-252-2 (3) | | | 22 | | |
| | | SOT-89 | | | 39 | | |

## Typical Performance Characteristics

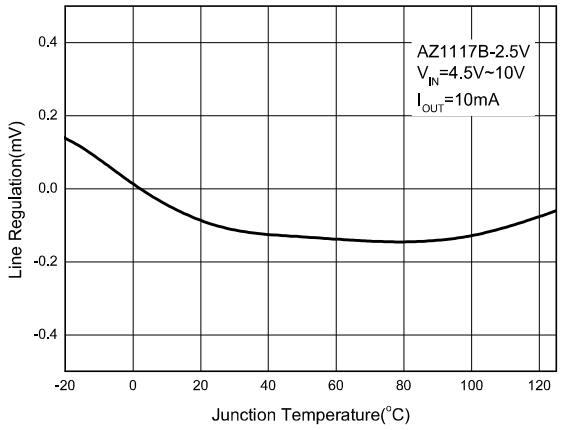



Figure 4. Line Regulation vs. Junction Temperature

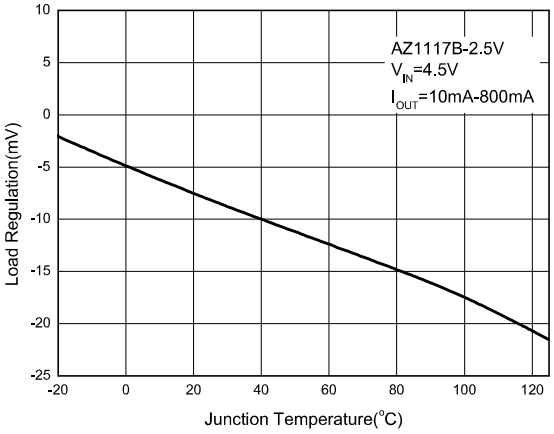



Figure 5. Load Regulation vs. Junction Temperature

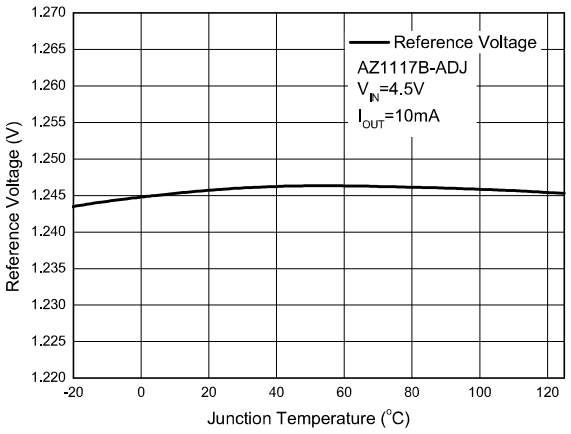



Figure 6. Reference Voltage vs. Junction Temperature

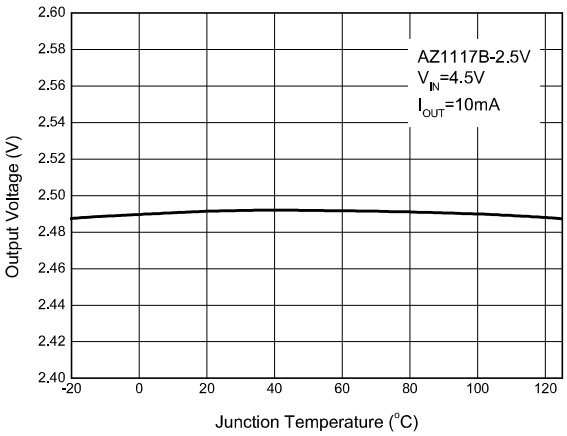



Figure 7. Output Voltage vs. Junction Temperature

## Typical Performance Characteristics (Continued)

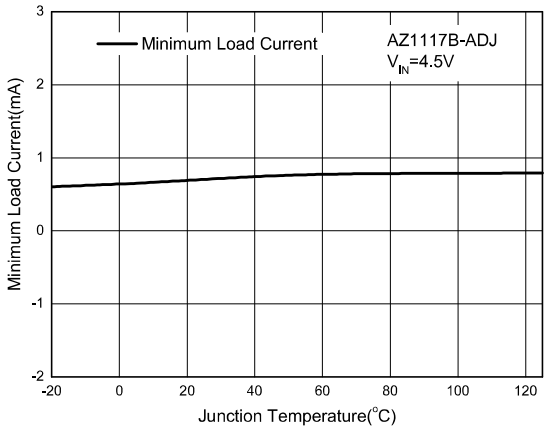



Figure 8. Minimum Load Current vs. Junction Temperature

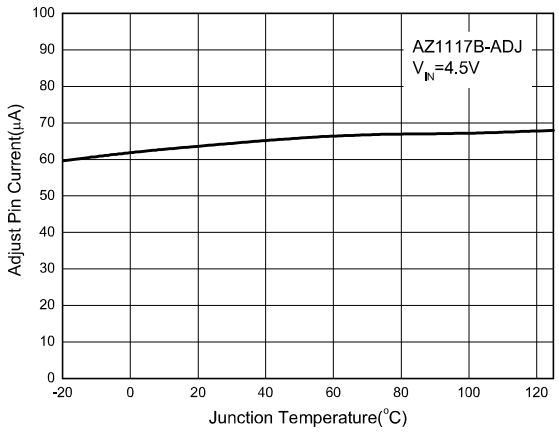



Figure 9. Adjust Pin Current vs. Junction Temperature

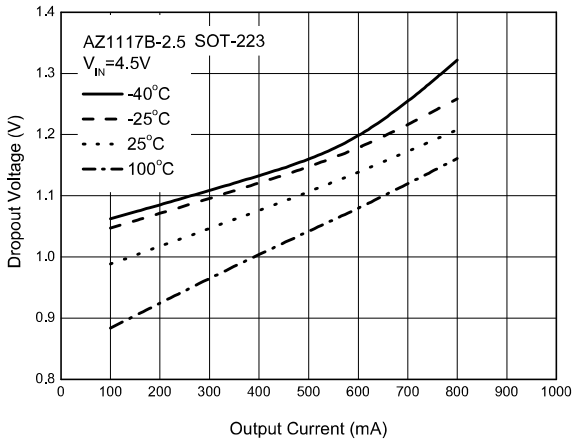



Figure 10. Dropout Voltage vs. Output Current

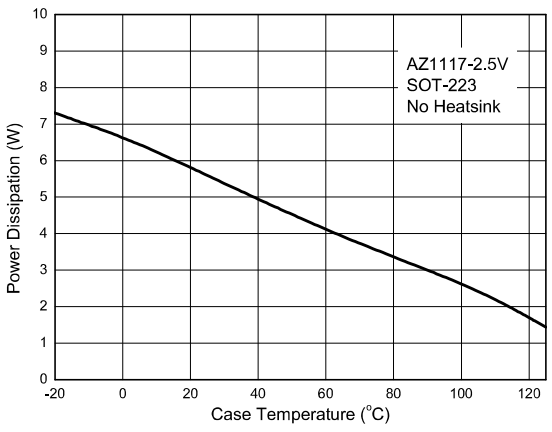



Figure 11. Power Dissipation vs. Case Temperature

## Typical Performance Characteristics (Continued)

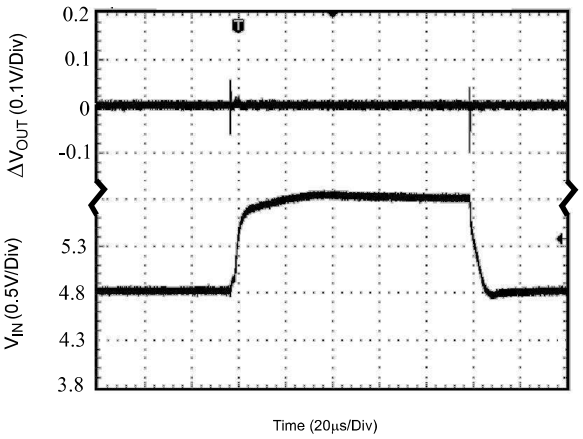



Figure 12. Line Transient Response

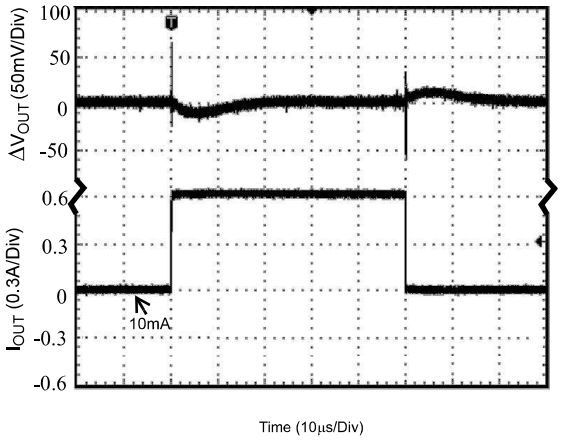



Figure 13. Load Transient Response

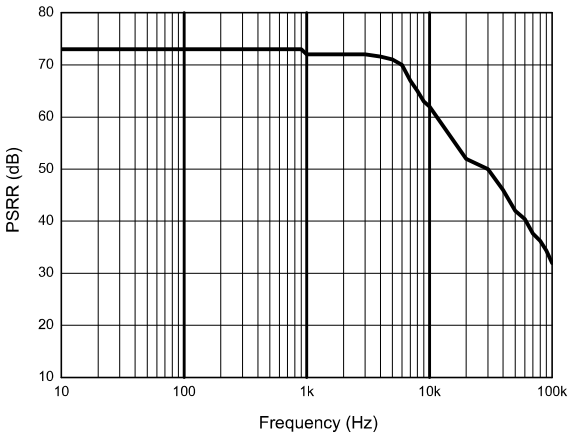



Figure 14. PSRR vs. Frequency

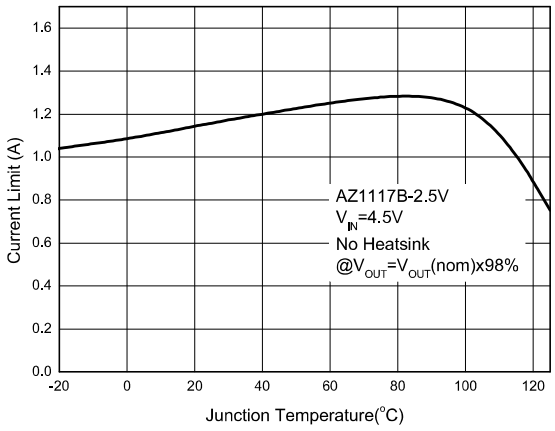



Figure 15. Current Limit vs. Junction Temperature

## Typical Performance Characteristics (Continued)

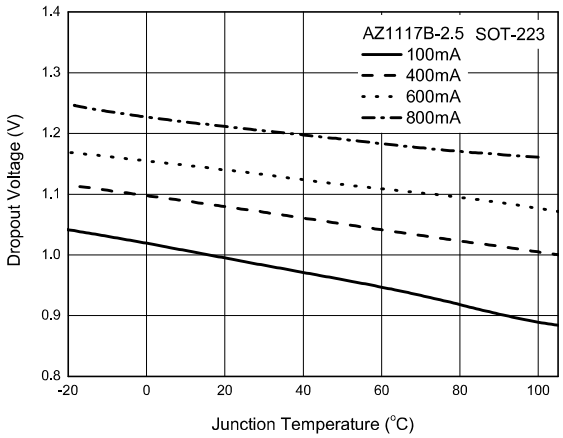



Figure 16. Dropout Voltage vs. Junction Temperature

## Typical Applications

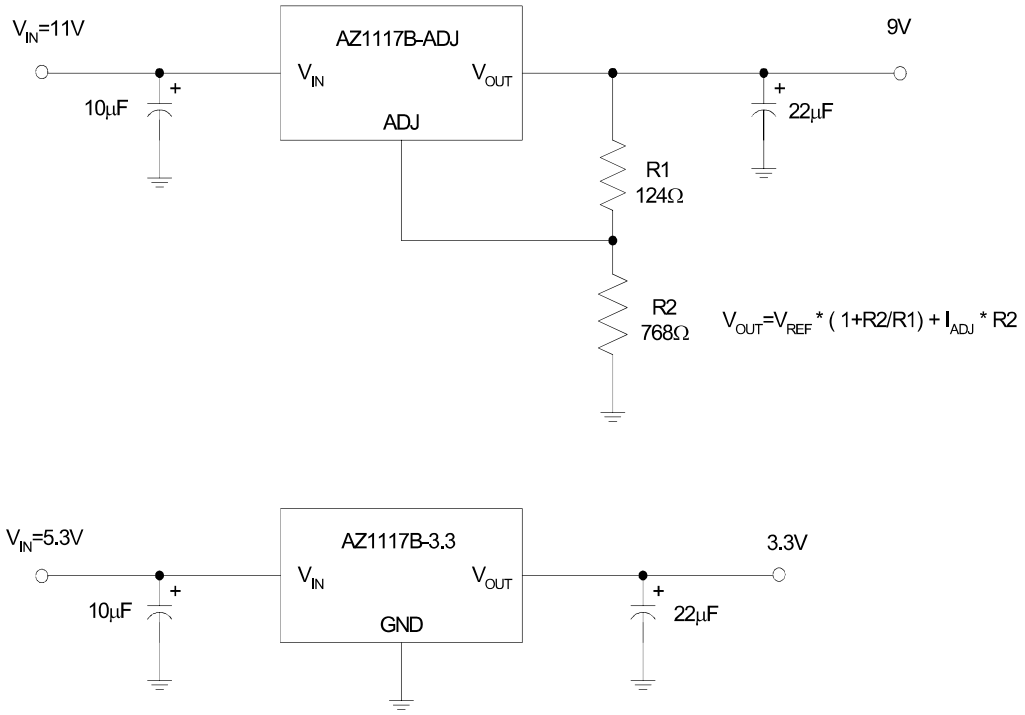
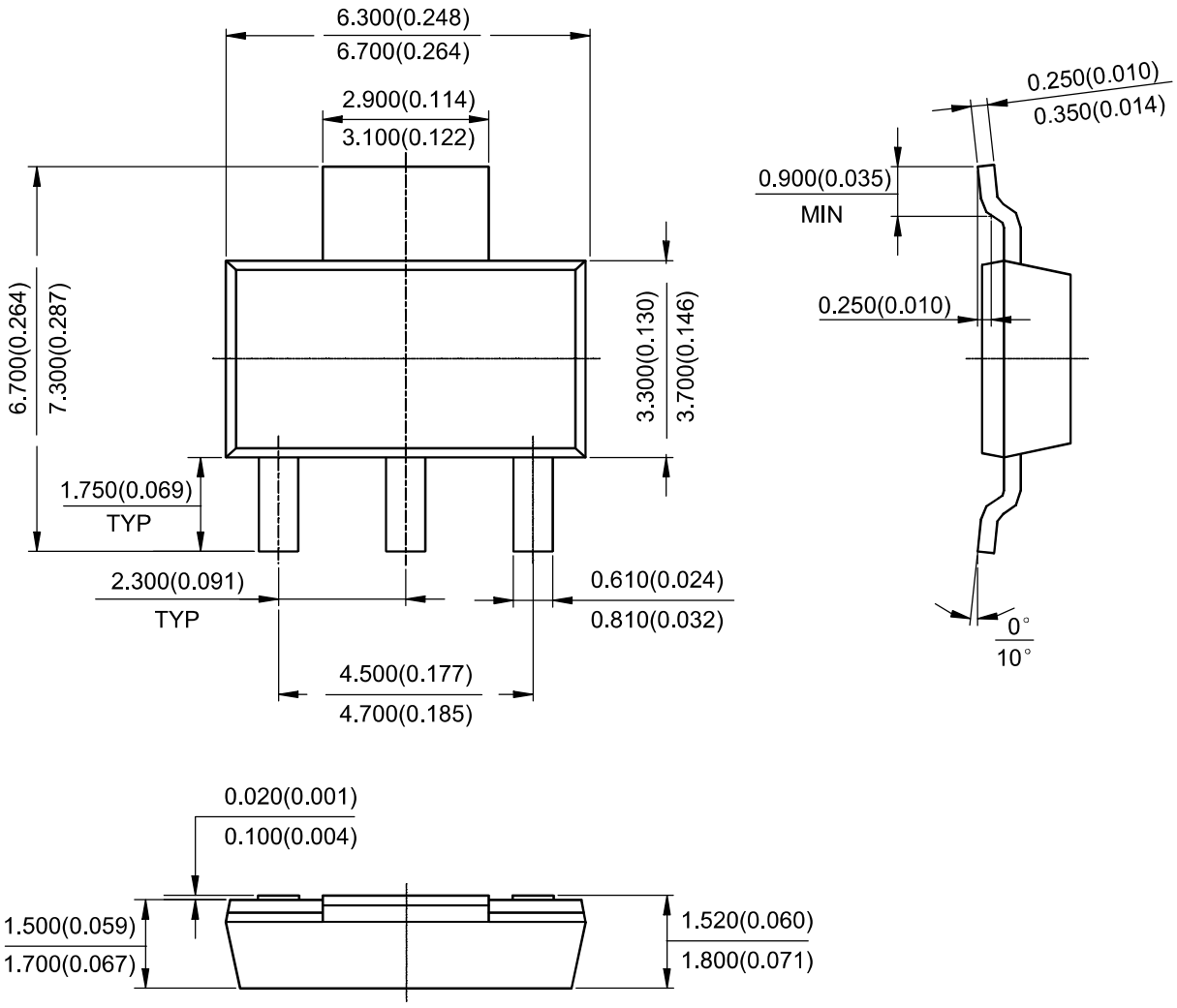



Figure 17. Typical Applications of AZ1117B

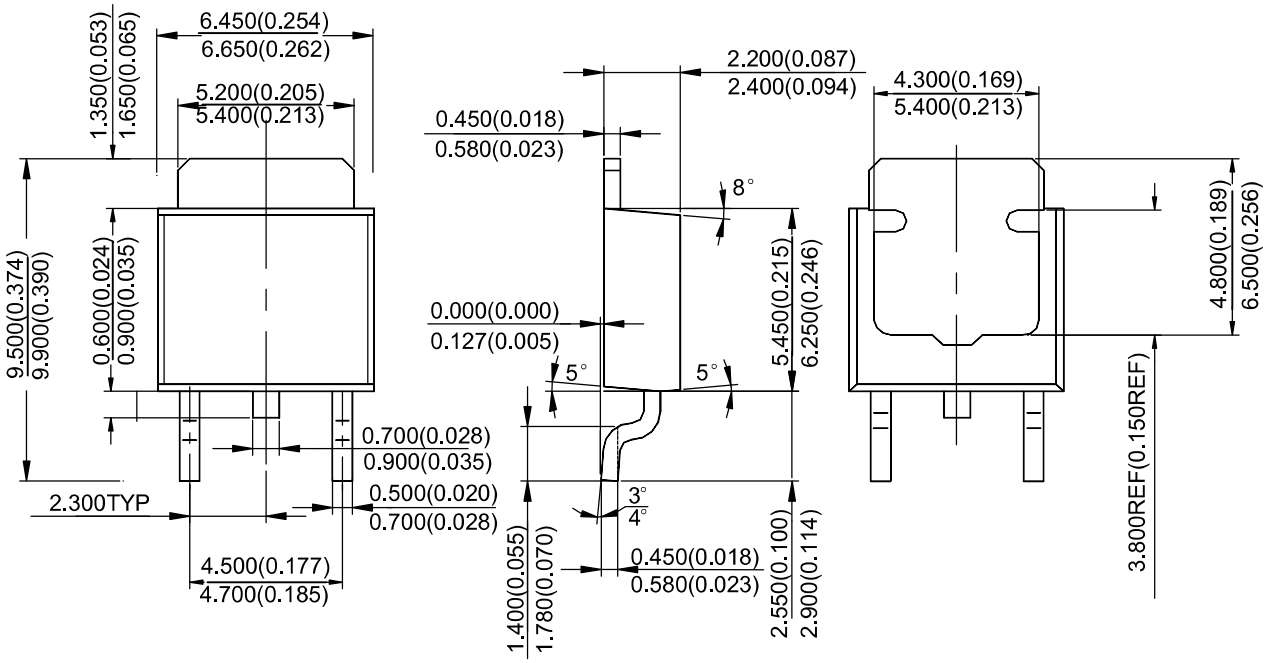
## Mechanical Dimensions

**SOT-223** **Unit: mm(inch)**



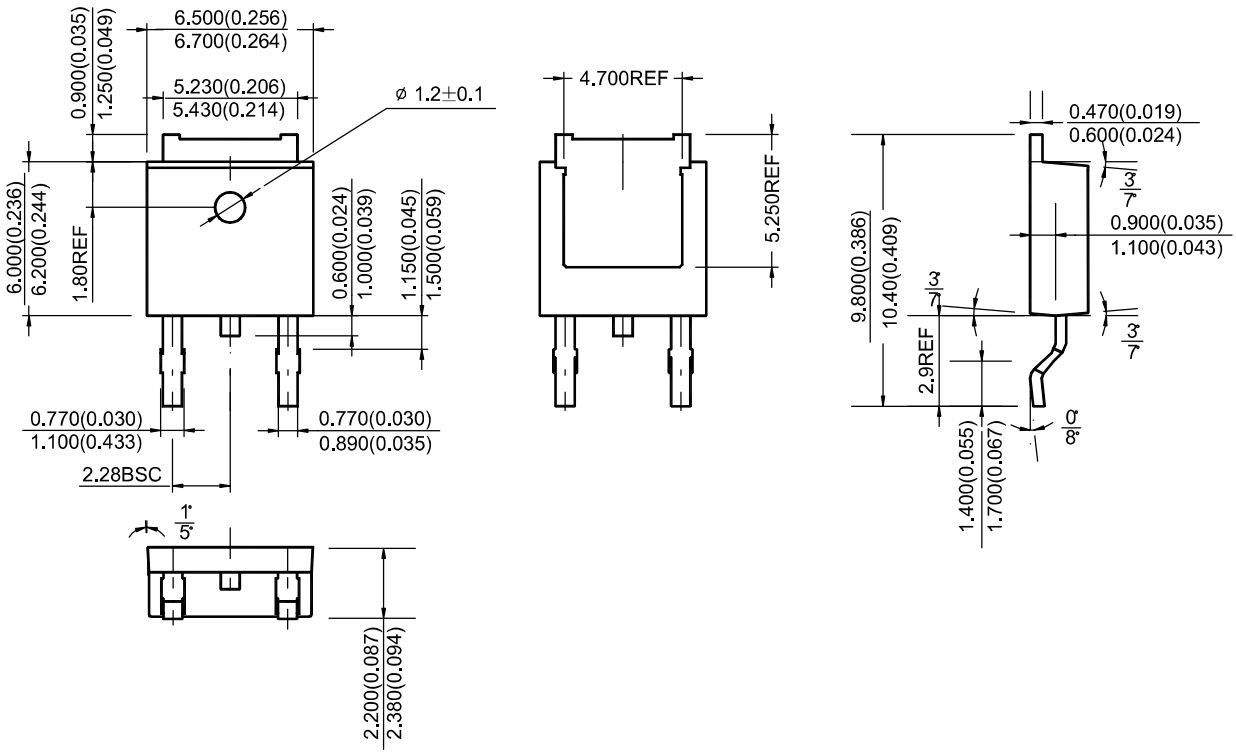
## Mechanical Dimensions (Continued)

**TO-252-2 (1)** **Unit: mm(inch)**



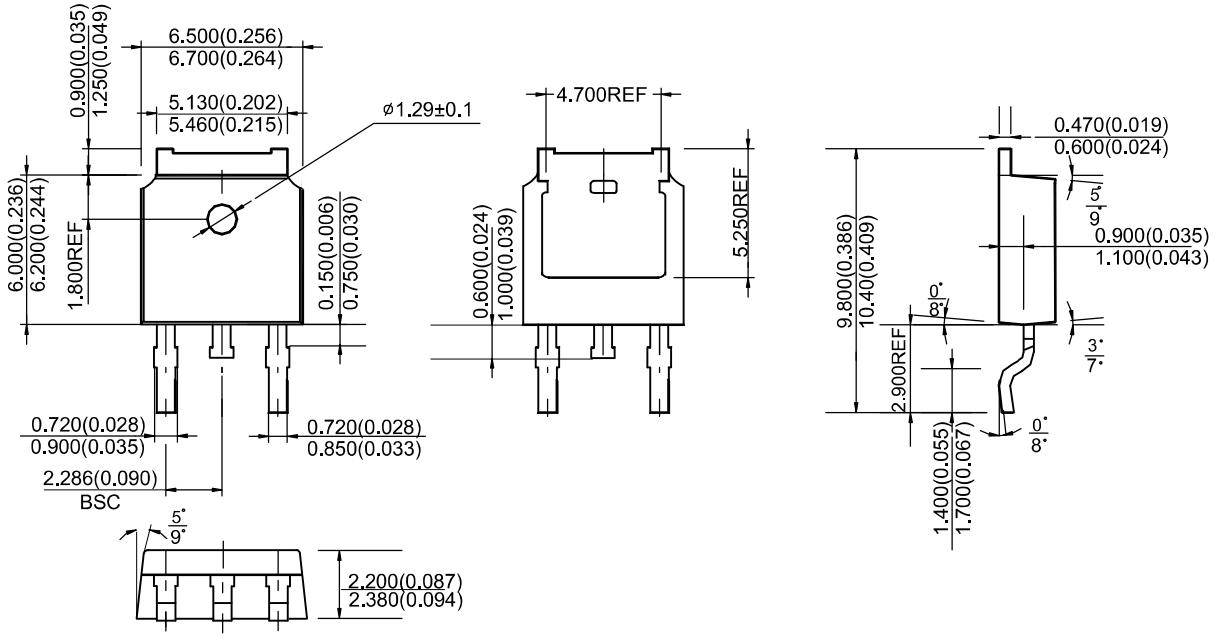
## Mechanical Dimensions (Continued)

**TO-252-2 (2)** **Unit: mm(inch)**



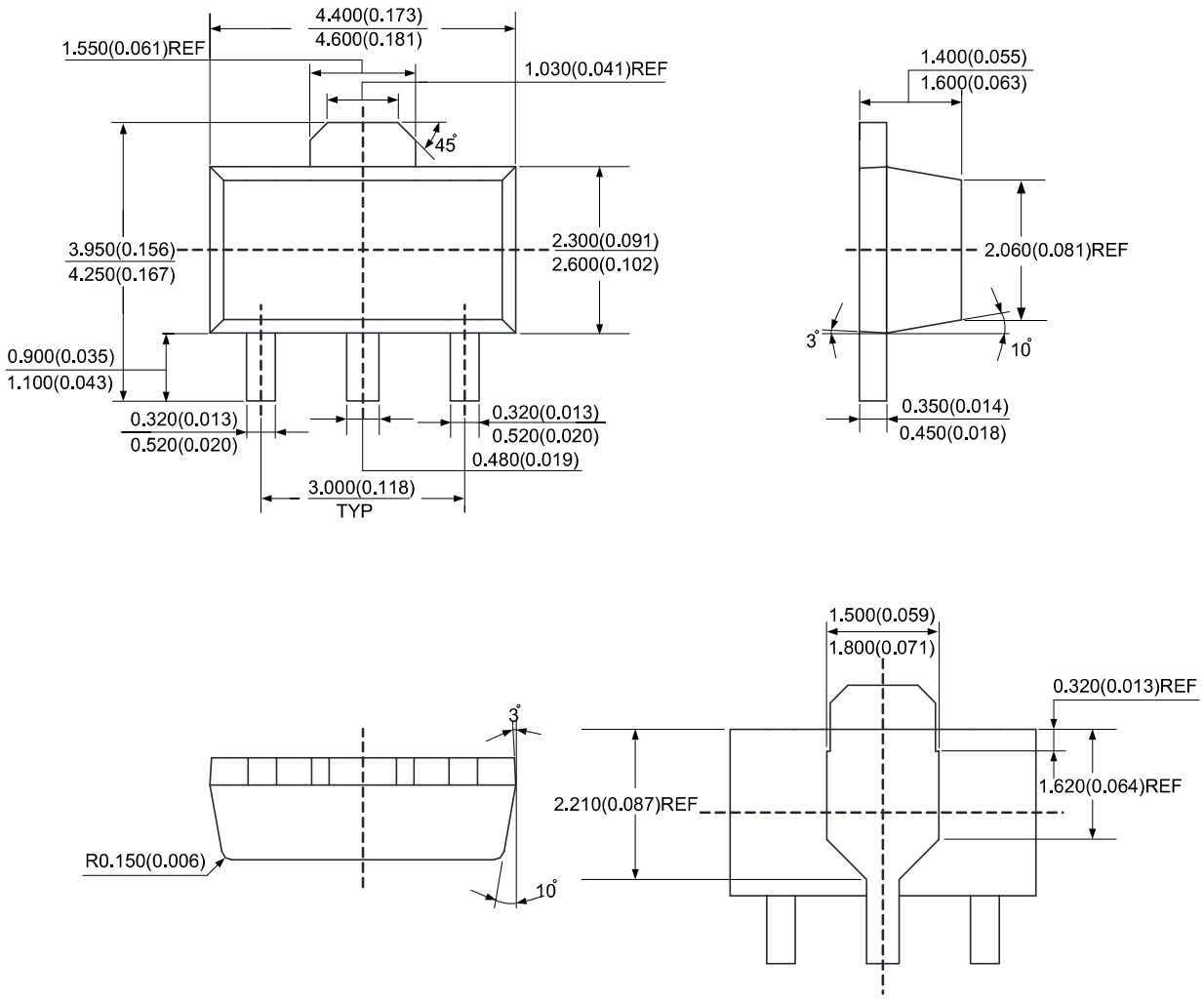
## Mechanical Dimensions (Continued)

**TO-252-2 (3)** **Unit: mm(inch)**



## Mechanical Dimensions (Continued)

**SOT-89** **Unit: mm(inch)**



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