

## ■ General Description

The AME8800/8811 family of positive, linear regulators feature low quiescent current (30 $\mu$ A typ.) with low drop-out voltage, making them ideal for battery applications. The space-saving SOT-23, SOT-25, SOT-89 and TO-92 packages are attractive for "Pocket" and "Hand Held" applications.

These rugged devices have both Thermal Shutdown, and Current Fold-back to prevent device failure under the "Worst" of operating conditions.

The AME8800/8811 is stable with an output capacitance of 2.2 $\mu$ F or greater.

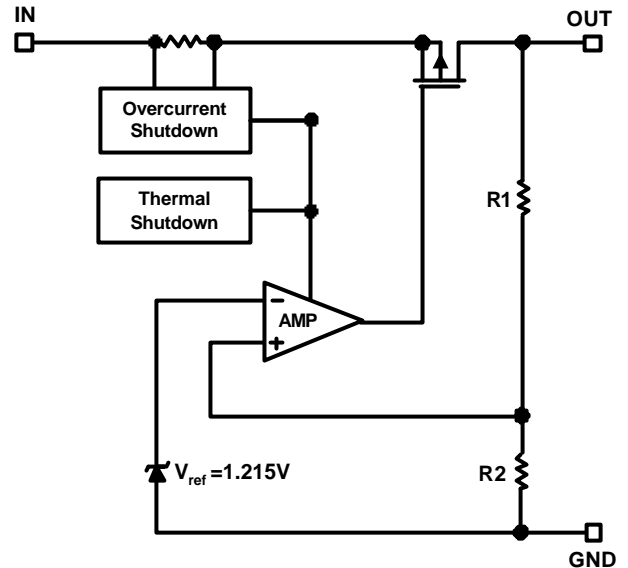
## ■ Features

- Very Low Dropout Voltage
- Guaranteed 300mA Output
- Accurate to within 1.5%
- 30 $\mu$ A Quiescent Current
- Over-Temperature Shutdown
- Current Limiting
- Short Circuit Current Fold-back
- Space-Saving SOT-23, SOT-25, SOT-89 and TO-92 Packages
- Factory Pre-set Output Voltages
- Low Temperature Coefficient
- All AME's Lead Free Product Meet RoHS Standards

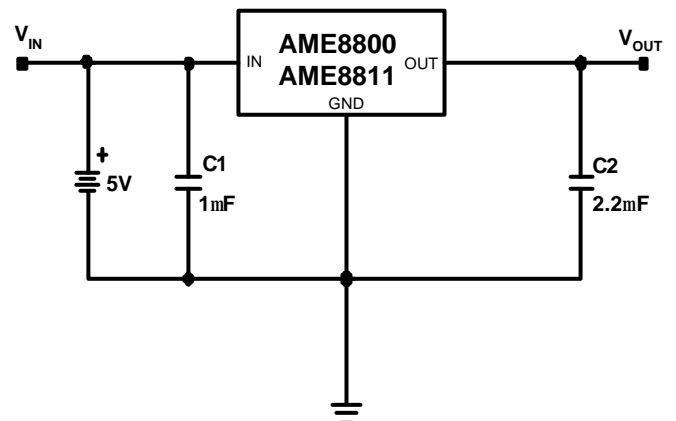
## ■ Applications

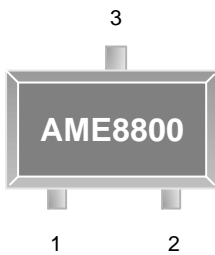
- Instrumentation
- Portable Electronics
- Wireless Devices
- Cordless Phones
- PC Peripherals
- Battery Powered Widgets

## ■ Functional Block Diagram



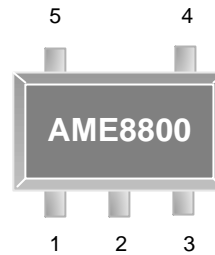
## ■ Typical Application



**■ Pin Configuration**
**SOT-23  
Top View**

**AME8800**

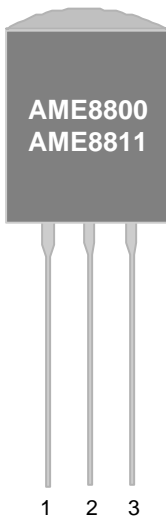
1. GND
2. OUT
3. IN

**\*Die Attach:  
Non-Conductive Epoxy**

**SOT-25  
Top View**

**AME8800**

1. GND
2. IN
3. OUT
4. NC
5. NC

**\*Die Attach:  
Non-Conductive Epoxy**

**TO-92  
Front View**

**AME8800**

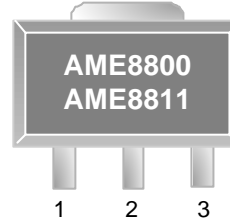
1. GND
2. IN
3. OUT

**\*Die Attach:  
Non-Conductive Epoxy**

**AME8811**

1. OUT
2. GND
3. IN

**\*Die Attach:  
Conductive Epoxy**

**SOT-89  
Top View**

**AME8800**

1. GND
2. IN (TAB)
3. OUT

**\*Die Attach:  
Non-Conductive Epoxy**

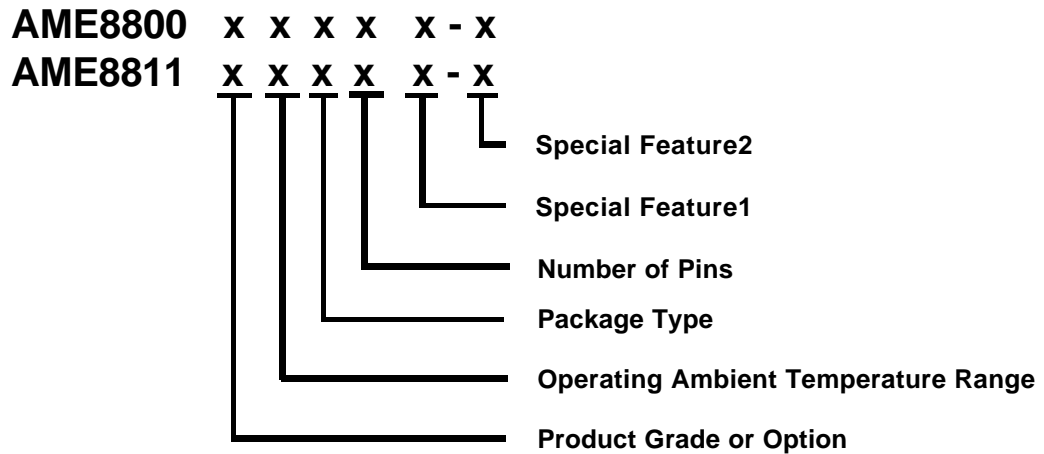
**AME8811**

1. OUT
2. GND (TAB)
3. IN

**\*Die Attach:  
Non-Conductive Epoxy**



■ Ordering Information



| Product Grade or Option  | Operating Ambient Temperature Range | Package Type                       | Number of Pins | Special Feature1   | Special Feature2<br>(For TO-92 Package Only)   |                                  |  |             |        |         |        |
|--|-------------------------------------|------------------------------------|----------------|--|--|----------------------------------|--|-------------|--------|---------|--------|
| A: 3.3V    1: 1.3V<br>B: 3.0V    2: 2.0V<br>C: 2.8V    3: 4.2V<br>D: 2.5V    4: 4.0V<br>E: 3.8V<br>F: 3.6V<br>G: 3.5V<br>H: 2.7V<br>I: 3.4V<br>J: 2.85V<br>K: 3.7V<br>L: 1.5V<br>M: 1.8V<br>N: 2.9V<br>O: 3.1V<br>P: 4.1V<br>Q: 4.75V<br>R: 2.65V<br>S: 5.0V<br>U: 3.2V<br>V: 3.15V<br>W: 2.3V<br>Y: 1.9V<br>Z: 1.7V | E: -40°C to 85°C                    | A: TO-92<br>E: SOT-2X<br>F: SOT-89 | T: 3<br>V: 5   | L: Low Profile<br>Y: Lead Free & Low Profile<br>Z: Lead Free | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;"><u>Package</u>    <u>Lead Pitch</u></th> </tr> </thead> <tbody> <tr> <td>N/A: Taping</td> <td>5.08mm</td> </tr> <tr> <td>1: Bulk</td> <td>2.54mm</td> </tr> </tbody> </table> | <u>Package</u> <u>Lead Pitch</u> |  | N/A: Taping | 5.08mm | 1: Bulk | 2.54mm |
| <u>Package</u> <u>Lead Pitch</u>   |                                     |                                    |                |  |  |                                  |  |             |        |         |        |
| N/A: Taping  | 5.08mm                              |                                    |                |  |  |                                  |  |             |        |         |        |
| 1: Bulk  | 2.54mm                              |                                    |                |  |  |                                  |  |             |        |         |        |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8800AEET        | AAAw            | 3.3V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800AEETL       | AAAw            | 3.3V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800AEETY       | AAAw            | 3.3V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800AEETZ       | AAAw            | 3.3V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800BEET        | AABw            | 3.0V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800BEETL       | AABw            | 3.0V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800BEETZ       | AABw            | 3.0V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800BEETY       | AABw            | 3.0V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800CEET        | AACw            | 2.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800CEETL       | AACw            | 2.8V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800CEETZ       | AACw            | 2.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800CEETY       | AACw            | 2.8V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800DEET        | AADw            | 2.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800DEETL       | AADw            | 2.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800DEETZ       | AADw            | 2.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800DEETY       | AADw            | 2.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800EEET        | AAEw            | 3.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800EEETL       | AAEw            | 3.8V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800EEETZ       | AAEw            | 3.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800EEETY       | AAEw            | 3.8V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800FEET        | ABNw            | 3.6V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800FEETL       | ABNw            | 3.6V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800FEETZ       | ABNw            | 3.6V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800FEETY       | ABNw            | 3.6V                  | TSOT-23        | - 40°C to 85°C                             |

Note: ww & yyww represent date code and pls refer the Date Code Rule before Package Dimension.

\* A line on top of the first letter represent lead free plating such as  $\overline{AAA}$

Please consult AME sales office or authorized Rep./Distributor for output voltage and package type availability.

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8800GEET        | ACDww           | 3.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800GEETL       | ACDww           | 3.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800GEETZ       | ACDww           | 3.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800GEETY       | ACDww           | 3.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800HEET        | AEDww           | 2.7V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800HEETL       | AEDww           | 2.7V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800HEETZ       | AEDww           | 2.7V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800HEETY       | AEDww           | 2.7V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800IEET        | AELww           | 3.4V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800IEETL       | AELww           | 3.4V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800IEETZ       | AELww           | 3.4V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800IEETY       | AELww           | 3.4V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800JEET        | AGNww           | 2.85V                 | SOT-23         | - 40°C to 85°C                             |
| AME8800JEETL       | AGNww           | 2.85V                 | TSOT-23        | - 40°C to 85°C                             |
| AME8800JEETZ       | AGNww           | 2.85V                 | SOT-23         | - 40°C to 85°C                             |
| AME8800JEETY       | AGNww           | 2.85V                 | TSOT-23        | - 40°C to 85°C                             |
| AME8800KEET        | AHPww           | 3.7V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800KEETL       | AHPww           | 3.7V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800KEETZ       | AHPww           | 3.7V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800KEETY       | AHPww           | 3.7V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800LEET        | AJWww           | 1.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800LEETL       | AJWww           | 1.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800LEETZ       | AJWww           | 1.5V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800LEETY       | AJWww           | 1.5V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800MEET        | AJXww           | 1.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800MEETL       | AJXww           | 1.8V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800MEETZ       | AJXww           | 1.8V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800MEETY       | AJXww           | 1.8V                  | TSOT-23        | - 40°C to 85°C                             |

**■ Ordering Information (contd.)**

| Part Number   | Marking* | Output Voltage | Package | Operating Ambient Temperature Range |
|---------------|----------|----------------|---------|-------------------------------------|
| AME8800NEET   | AKGww    | 2.9V           | SOT-23  | - 40°C to 85°C                      |
| AME8800NEETL  | AKGww    | 2.9V           | TSOT-23 | - 40°C to 85°C                      |
| AME8800NEETZ  | AKGww    | 2.9V           | SOT-23  | - 40°C to 85°C                      |
| AME8800NEETY  | AKGww    | 2.9V           | TSOT-23 | - 40°C to 85°C                      |
| AME8800OEET   | AKHww    | 3.1V           | SOT-23  | - 40°C to 85°C                      |
| AME8800OEETL  | AKHww    | 3.1V           | TSOT-23 | - 40°C to 85°C                      |
| AME8800OEETZ  | AKHww    | 3.1V           | SOT-23  | - 40°C to 85°C                      |
| AME8800OEETY  | AKHww    | 3.1V           | TSOT-23 | - 40°C to 85°C                      |
| AME8800AEEV   | ABRww    | 3.3V           | SOT-25  | - 40°C to 85°C                      |
| AME8800AEEVL  | ABRww    | 3.3V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800AEEVZ  | ABRww    | 3.3V           | SOT-25  | - 40°C to 85°C                      |
| AME8800AEEVY  | ABRww    | 3.3V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800BEEV   | ABSww    | 3.0V           | SOT-25  | - 40°C to 85°C                      |
| AME8800BEEVL  | ABSww    | 3.0V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800BEEVZ  | ABSww    | 3.0V           | SOT-25  | - 40°C to 85°C                      |
| AME8800BEEVY  | ABSww    | 3.0V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800CEEV   | ABTww    | 2.8V           | SOT-25  | - 40°C to 85°C                      |
| AME8800CEEVL  | ABTww    | 2.8V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800CEEVZ  | ABTww    | 2.8V           | SOT-25  | - 40°C to 85°C                      |
| AME8800CEEVY  | ABTww    | 2.8V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800DEEV   | ABUww    | 2.5V           | SOT-25  | - 40°C to 85°C                      |
| AME8800DEEVL  | ABUww    | 2.5V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800DEEVZ  | ABUww    | 2.5V           | SOT-25  | - 40°C to 85°C                      |
| AME8800DEEVY  | ABUww    | 2.5V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800EEEEV  | ABVww    | 3.8V           | SOT-25  | - 40°C to 85°C                      |
| AME8800EEEEVL | ABVww    | 3.8V           | TSOT-25 | - 40°C to 85°C                      |
| AME8800EEEEVZ | ABVww    | 3.8V           | SOT-25  | - 40°C to 85°C                      |
| AME8800EEEEVY | ABVww    | 3.8V           | TSOT-25 | - 40°C to 85°C                      |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8800FEEV        | ABWww           | 3.6V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800FEEVL       | ABWww           | 3.6V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800FEEVZ       | ABWww           | 3.6V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800FEEVY       | ABWww           | 3.6V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800GEEV        | ACEww           | 3.5V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800GEEVL       | ACEww           | 3.5V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800GEEVZ       | ACEww           | 3.5V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800GEEVY       | ACEww           | 3.5V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800HEEV        | AEEww           | 2.7V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800HEEVL       | AEEww           | 2.7V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800HEEVZ       | AEEww           | 2.7V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800HEEVY       | AEEww           | 2.7V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800IEEV        | AEMww           | 3.4V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800IEEVL       | AEMww           | 3.4V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800IEEVZ       | AEMww           | 3.4V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800IEEVY       | AEMww           | 3.4V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800JEEV        | AGOww           | 2.85V                 | SOT-25         | - 40°C to 85°C                             |
| AME8800JEEVL       | AGOww           | 2.85V                 | TSOT-25        | - 40°C to 85°C                             |
| AME8800JEEVZ       | AGOww           | 2.85V                 | SOT-25         | - 40°C to 85°C                             |
| AME8800JEEVY       | AGOww           | 2.85V                 | TSOT-25        | - 40°C to 85°C                             |
| AME8800KEEV        | AHQww           | 3.7V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800KEEVL       | AHQww           | 3.7V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800KEEVZ       | AHQww           | 3.7V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800KEEVY       | AHQww           | 3.7V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800LEEV        | AJUww           | 1.5V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800LEEVL       | AJUww           | 1.5V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800LEEVL       | AJUww           | 1.5V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800LEEVL       | AJUww           | 1.5V                  | TSOT-25        | - 40°C to 85°C                             |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8800MEEV        | AJVww           | 1.8V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800MEEVL       | AJVww           | 1.8V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800MEEVZ       | AJVww           | 1.8V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800MEEVY       | AJVww           | 1.8V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800NEEV        | AKlww           | 2.9V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800NEEVL       | AKlww           | 2.9V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800NEEVZ       | AKlww           | 2.9V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800NEEVY       | AKlww           | 2.9V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800OEEV        | AKJww           | 3.1V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800OEEVL       | AKJww           | 3.1V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800OEEVZ       | AKJww           | 3.1V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800OEEVY       | AKJww           | 3.1V                  | TSOT-25        | - 40°C to 85°C                             |
| AME8800AEFT        | A8800<br>AEFww  | 3.3V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800AEFTZ       | A8800<br>AEFww  | 3.3V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800BEFT        | A8800<br>BEFww  | 3.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800BEFTZ       | A8800<br>BEFww  | 3.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800CEFT        | A8800<br>CEFww  | 2.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800CEFTZ       | A8800<br>CEFww  | 2.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800DEFT        | A8800<br>DEFww  | 2.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800DEFTZ       | A8800<br>DEFww  | 2.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800EEFT        | A8800<br>EEFww  | 3.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800EEFTZ       | A8800<br>EEFww  | 3.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800FEFT        | A8800<br>FEFww  | 3.6V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800FEFTZ       | A8800<br>FEFww  | 3.6V                  | SOT-89         | - 40°C to 85°C                             |



**■ Ordering Information (contd.)**

| Part Number  | Marking*       | Output Voltage | Package | Operating Ambient Temperature Range |
|--------------|----------------|----------------|---------|-------------------------------------|
| AME8800GEFT  | A8800<br>GEFww | 3.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8800GEFTZ | A8800<br>GEFww | 3.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8800HEFT  | A8800<br>HEFww | 2.7V           | SOT-89  | - 40°C to 85°C                      |
| AME8800HEFTZ | A8800<br>HEFww | 2.7V           | SOT-89  | - 40°C to 85°C                      |
| AME8800IEFT  | A8800<br>IEFww | 3.4V           | SOT-89  | - 40°C to 85°C                      |
| AME8800IEFTZ | A8800<br>IEFww | 3.4V           | SOT-89  | - 40°C to 85°C                      |
| AME8800JEFT  | A8800<br>JEFww | 2.85V          | SOT-89  | - 40°C to 85°C                      |
| AME8800JEFTZ | A8800<br>JEFww | 2.85V          | SOT-89  | - 40°C to 85°C                      |
| AME8800KEFT  | A8800<br>KEFww | 3.7V           | SOT-89  | - 40°C to 85°C                      |
| AME8800KEFTZ | A8800<br>KEFww | 3.7V           | SOT-89  | - 40°C to 85°C                      |
| AME8800LEFT  | A8800<br>LEFww | 1.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8800LEFTZ | A8800<br>LEFww | 1.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8800MEFT  | A8800<br>MEFww | 1.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8800MEFTZ | A8800<br>MEFww | 1.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8800NEFT  | A8800<br>NEFww | 2.9V           | SOT-89  | - 40°C to 85°C                      |
| AME8800NEFTZ | A8800<br>NEFww | 2.9V           | SOT-89  | - 40°C to 85°C                      |
| AME8800OEFT  | A8800<br>OEFww | 3.1V           | SOT-89  | - 40°C to 85°C                      |
| AME8800OEFTZ | A8800<br>OEFww | 3.1V           | SOT-89  | - 40°C to 85°C                      |
| AME8800SEFT  | A8800<br>SEFww | 5.0V           | SOT-89  | - 40°C to 85°C                      |
| AME8800SEFTZ | A8800<br>SEFww | 5.0V           | SOT-89  | - 40°C to 85°C                      |
| AME8800WEFT  | A8800<br>WEFww | 2.3V           | SOT-89  | - 40°C to 85°C                      |
| AME8800WEFTZ | A8800<br>WEFww | 2.3V           | SOT-89  | - 40°C to 85°C                      |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8800ZEFT        | A8800<br>ZEFww  | 1.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800ZEFTZ       | A8800<br>ZEFww  | 1.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME88001EFT        | A8800<br>1EFww  | 1.3V                  | SOT-89         | - 40°C to 85°C                             |
| AME88001EFTZ       | A8800<br>1EFww  | 1.3V                  | SOT-89         | - 40°C to 85°C                             |
| AME88002EFT        | A8800<br>2EFww  | 2.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME88002EFTZ       | A8800<br>2EFww  | 2.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME88003EFT        | A8800<br>3EFww  | 4.2V                  | SOT-89         | - 40°C to 85°C                             |
| AME88003EFTZ       | A8800<br>3EFww  | 4.2V                  | SOT-89         | - 40°C to 85°C                             |
| AME88004EFT        | A8800<br>4EFww  | 4.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME88004EFTZ       | A8800<br>4EFww  | 4.0V                  | SOT-89         | - 40°C to 85°C                             |
| AME8800SEETZ       | AQVww           | 5.0V                  | SOT-23         | - 40°C to 85°C                             |
| AME8800SEETY       | AQVww           | 5.0V                  | TSOT-23        | - 40°C to 85°C                             |
| AME8800SEEVZ       | AQWww           | 5.0V                  | SOT-25         | - 40°C to 85°C                             |
| AME8800SEEVY       | AQWww           | 5.0V                  | TSOT-25        | - 40°C to 85°C                             |
| AME88004EET        | BDBww           | 4.0V                  | SOT-23         | - 40°C to 85°C                             |
| AME88004EETL       | BDBww           | 4.0V                  | TSOT-23        | - 40°C to 85°C                             |
| AME88004EETY       | BDBww           | 4.0V                  | TSOT-23        | - 40°C to 85°C                             |
| AME88004EETZ       | BDBww           | 4.0V                  | SOT-23         | - 40°C to 85°C                             |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b>             | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------------------|-----------------------|----------------|--|
| AME8800AEAT        | AME<br>8800<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800AEATZ       | AME<br>8800<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800BEAT        | AME<br>8800<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800BEATZ       | AME<br>8800<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800CEATZ       | AME<br>8800<br>CEAT<br>yyww | 2.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800DEATZ       | AME<br>8800<br>DEAT<br>yyww | 2.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800EEATZ       | AME<br>8800<br>EEAT<br>yyww | 3.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800FEATZ       | AME<br>8800<br>FEAT<br>yyww | 3.6V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800GEATZ       | AME<br>8800<br>GEAT<br>yyww | 3.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8800HEATZ       | AME<br>8800<br>HEAT<br>yyww | 2.7V                  | TO-92-3        | - 40°C to 85°C                             |



■ Ordering Information (contd.)

| Part Number    | Marking*                    | Output Voltage | Package | Operating Ambient Temperature Range |
|----------------|-----------------------------|----------------|---------|-------------------------------------|
| AME8800AEAT-1  | AME<br>8800<br>AEAT<br>yyww | 3.3V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800AEATZ-1 | AME<br>8800<br>AEAT<br>yyww | 3.3V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800BEAT-1  | AME<br>8800<br>BEAT<br>yyww | 3.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800BEATZ-1 | AME<br>8800<br>BEAT<br>yyww | 3.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800CEATZ-1 | AME<br>8800<br>CEAT<br>yyww | 2.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800DEATZ-1 | AME<br>8800<br>DEAT<br>yyww | 2.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800EEATZ-1 | AME<br>8800<br>EEAT<br>yyww | 3.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800FEATZ-1 | AME<br>8800<br>FEAT<br>yyww | 3.6V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800GEATZ-1 | AME<br>8800<br>GEAT<br>yyww | 3.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800HEATZ-1 | AME<br>8800<br>HEAT<br>yyww | 2.7V           | TO-92-3 | - 40°C to 85°C                      |

**■ Ordering Information (contd.)**

| Part Number  | Marking*                    | Output Voltage | Package | Operating Ambient Temperature Range |
|--------------|-----------------------------|----------------|---------|-------------------------------------|
| AME8800IEATZ | AME<br>8800<br>IEAT<br>yyww | 3.4V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800JEATZ | AME<br>8800<br>JEAT<br>yyww | 2.85V          | TO-92-3 | - 40°C to 85°C                      |
| AME8800KEATZ | AME<br>8800<br>KEAT<br>yyww | 3.7V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800LEATZ | AME<br>8800<br>LEAT<br>yyww | 1.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800MEATZ | AME<br>8800<br>MEAT<br>yyww | 1.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800NEATZ | AME<br>8800<br>NEAT<br>yyww | 2.9V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800OEATZ | AME<br>8800<br>OEAT<br>yyww | 3.1V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800SEAT  | AME<br>8800<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800SEATZ | AME<br>8800<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |



■ Ordering Information (contd.)

| Part Number    | Marking*                    | Output Voltage | Package | Operating Ambient Temperature Range |
|----------------|-----------------------------|----------------|---------|-------------------------------------|
| AME8800IEATZ-1 | AME<br>8800<br>IEAT<br>yyww | 3.4V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800JEATZ-1 | AME<br>8800<br>JEAT<br>yyww | 2.85V          | TO-92-3 | - 40°C to 85°C                      |
| AME8800KEATZ-1 | AME<br>8800<br>KEAT<br>yyww | 3.7V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800LEATZ-1 | AME<br>8800<br>LEAT<br>yyww | 1.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800MEATZ-1 | AME<br>8800<br>MEAT<br>yyww | 1.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800NEATZ-1 | AME<br>8800<br>NEAT<br>yyww | 2.9V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800OEATZ-1 | AME<br>8800<br>OEAT<br>yyww | 3.1V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800SEAT-1  | AME<br>8800<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8800SEATZ-1 | AME<br>8800<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b>             | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------------------|-----------------------|----------------|--|
| AME8811AEAT        | AME<br>8811<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811AEATZ       | AME<br>8811<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811BEAT        | AME<br>8811<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811BEATZ       | AME<br>8811<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811CEATZ       | AME<br>8811<br>CEAT<br>yyww | 2.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811DEAT        | AME<br>8811<br>DEAT<br>yyww | 2.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811DEATZ       | AME<br>8811<br>DEAT<br>yyww | 2.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811EEATZ       | AME<br>8811<br>EEAT<br>yyww | 3.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811FEATZ       | AME<br>8811<br>FEAT<br>yyww | 3.6V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811GEATZ       | AME<br>8811<br>GEAT<br>yyww | 3.5V                  | TO-92-3        | - 40°C to 85°C                             |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b>             | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------------------|-----------------------|----------------|--|
| AME8811AEAT-1      | AME<br>8811<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811AEATZ-1     | AME<br>8811<br>AEAT<br>yyww | 3.3V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811BEAT-1      | AME<br>8811<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811BEATZ-1     | AME<br>8811<br>BEAT<br>yyww | 3.0V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811CEATZ-1     | AME<br>8811<br>CEAT<br>yyww | 2.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811DEAT-1      | AME<br>8811<br>DEAT<br>yyww | 2.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811DEATZ-1     | AME<br>8811<br>DEAT<br>yyww | 2.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811EEATZ-1     | AME<br>8811<br>EEAT<br>yyww | 3.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811FEATZ-1     | AME<br>8811<br>FEAT<br>yyww | 3.6V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811GEATZ-1     | AME<br>8811<br>GEAT<br>yyww | 3.5V                  | TO-92-3        | - 40°C to 85°C                             |



**■ Ordering Information (contd.)**

| Part Number  | Marking*                    | Output Voltage | Package | Operating Ambient Temperature Range |
|--------------|-----------------------------|----------------|---------|-------------------------------------|
| AME8811HEATZ | AME<br>8811<br>HEAT<br>yyww | 2.7V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811IEATZ | AME<br>8811<br>IEAT<br>yyww | 3.4V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811JEATZ | AME<br>8811<br>JEAT<br>yyww | 2.85V          | TO-92-3 | - 40°C to 85°C                      |
| AME8811KEATZ | AME<br>8811<br>KEAT<br>yyww | 3.7V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811LEAT  | AME<br>8811<br>LEAT<br>yyww | 1.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811LEATZ | AME<br>8811<br>LEAT<br>yyww | 1.5V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811MEAT  | AME<br>8811<br>MEAT<br>yyww | 1.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811MEATZ | AME<br>8811<br>MEAT<br>yyww | 1.8V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811NEATZ | AME<br>8811<br>NEAT<br>yyww | 2.9V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811OEATZ | AME<br>8811<br>OEAT<br>yyww | 3.1V           | TO-92-3 | - 40°C to 85°C                      |

**■ Ordering Information (contd.)**

| <b>Part Number</b> | <b>Marking*</b>             | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------------------|-----------------------|----------------|--|
| AME8811HEATZ-1     | AME<br>8811<br>HEAT<br>yyww | 2.7V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811IEATZ-1     | AME<br>8811<br>IEAT<br>yyww | 3.4V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811JEATZ-1     | AME<br>8811<br>JEAT<br>yyww | 2.85V                 | TO-92-3        | - 40°C to 85°C                             |
| AME8811KEATZ-1     | AME<br>8811<br>KEAT<br>yyww | 3.7V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811LEAT-1      | AME<br>8811<br>LEAT<br>yyww | 1.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811LEATZ-1     | AME<br>8811<br>LEAT<br>yyww | 1.5V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811MEAT-1      | AME<br>8811<br>MEAT<br>yyww | 1.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811MEATZ-1     | AME<br>8811<br>MEAT<br>yyww | 1.8V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811NEATZ-1     | AME<br>8811<br>NEAT<br>yyww | 2.9V                  | TO-92-3        | - 40°C to 85°C                             |
| AME8811OEATZ-1     | AME<br>8811<br>OEAT<br>yyww | 3.1V                  | TO-92-3        | - 40°C to 85°C                             |

**■ Ordering Information (contd.)**

| Part Number    | Marking*                    | Output Voltage | Package | Operating Ambient Temperature Range |
|----------------|-----------------------------|----------------|---------|-------------------------------------|
| AME8811SEAT    | AME<br>8811<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811SEATZ   | AME<br>8811<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811SEAT-1  | AME<br>8811<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811SEATZ-1 | AME<br>8811<br>SEAT<br>yyww | 5.0V           | TO-92-3 | - 40°C to 85°C                      |
| AME8811AEFT    | A8811<br>AEFww              | 3.3V           | SOT-89  | - 40°C to 85°C                      |
| AME8811AEFTZ   | A8811<br>AEFww              | 3.3V           | SOT-89  | - 40°C to 85°C                      |
| AME8811BEFT    | A8811<br>BEFww              | 3.0V           | SOT-89  | - 40°C to 85°C                      |
| AME8811BEFTZ   | A8811<br>BEFww              | 3.0V           | SOT-89  | - 40°C to 85°C                      |
| AME8811CEFT    | A8811<br>CEFww              | 2.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8811CEFTZ   | A8811<br>CEFww              | 2.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8811DEFT    | A8811<br>DEFww              | 2.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8811DEFTZ   | A8811<br>DEFww              | 2.5V           | SOT-89  | - 40°C to 85°C                      |
| AME8811EEFT    | A8811<br>EEFww              | 3.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8811EEFTZ   | A8811<br>EEFww              | 3.8V           | SOT-89  | - 40°C to 85°C                      |
| AME8811FEFT    | A8811<br>FEFww              | 3.6V           | SOT-89  | - 40°C to 85°C                      |
| AME8811FEFTZ   | A8811<br>FEFww              | 3.6V           | SOT-89  | - 40°C to 85°C                      |

**■ Ordering Information**

| <b>Part Number</b> | <b>Marking*</b> | <b>Output Voltage</b> | <b>Package</b> | <b>Operating Ambient Temperature Range</b> |
|--------------------|-----------------|-----------------------|----------------|--|
| AME8811GEFT        | A8811<br>GEFww  | 3.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811GEFTZ       | A8811<br>GEFww  | 3.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811HEFT        | A8811<br>HEFww  | 2.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811HEFTZ       | A8811<br>HEFww  | 2.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811IEFT        | A8811<br>IEFww  | 3.4V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811IEFTZ       | A8811<br>IEFww  | 3.4V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811JEFT        | A8811<br>JEFww  | 2.85V                 | SOT-89         | - 40°C to 85°C                             |
| AME8811JEFTZ       | A8811<br>JEFww  | 2.85V                 | SOT-89         | - 40°C to 85°C                             |
| AME8811KEFT        | A8811<br>KEFww  | 3.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811KEFTZ       | A8811<br>KEFww  | 3.7V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811LEFT        | A8811<br>LEFww  | 1.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811LEFTZ       | A8811<br>LEFww  | 1.5V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811MEFT        | A8811<br>MEFww  | 1.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811MEFTZ       | A8811<br>MEFww  | 1.8V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811NEFT        | A8811<br>NEFww  | 2.9V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811NEFTZ       | A8811<br>NEFww  | 2.9V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811OEFT        | A8811<br>OEFww  | 3.1V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811OEFTZ       | A8811<br>OEFww  | 3.1V                  | SOT-89         | - 40°C to 85°C                             |
| AME8811SEFTZ       | A8811<br>SEFww  | 5.0V                  | SOT-89         | - 40°C to 85°C                             |



■ Absolute Maximum Ratings

| Parameter          | Maximum                    | Unit |
|--------------------|----------------------------|------|
| Input Voltage      | -0.3 to 8                  | V    |
| Output Voltage     | -0.3 to $V_{IN} + 0.3$     | V    |
| Output Current     | $P_D / (V_{IN} - V_{OUT})$ | mA   |
| ESD Classification | B*                         |      |

Caution: Stress above the listed absolute rating may cause permanent damage to the device.

\*HBM B:2000V~2999V

■ Recommended Operating Conditions

| Parameter                  | Symbol    | Rating      | Unit |
|----------------------------|-----------|-------------|------|
| Ambient Temperature Range  | $T_A$     | - 40 to 85  | °C   |
| Junction Temperature Range | $T_J$     | - 40 to 125 | °C   |
| Storage Temperature Range  | $T_{STG}$ | - 65 to 125 | °C   |



■ Thermal Information

| Parameter                                   | Package  | Die Attach           | Symbol        | Maximum | Unit   |
|---|----------|----------------------|---------------|---------|--------|
| Thermal Resistance<br>(Junction to Ambient) | SOT-23   | Non-Conductive Epoxy | $\theta_{JA}$ | 280     | °C / W |
|   | SOT-25   | Non-Conductive Epoxy |               | 280     |        |
|   | SOT-89   | Conductive Epoxy     |               | 180     |        |
|   |          | Non-Conductive Epoxy |               | 180     |        |
|   | TO-92    | Conductive Epoxy     |               | 150     |        |
|   |          | Non-Conductive Epoxy |               | 150     |        |
| Thermal Resistance<br>(Junction to Case)    | SOT-23** | Non-Conductive Epoxy | $\theta_{JC}$ | 140     | °C / W |
|   | SOT-25** | Non-Conductive Epoxy |               | 140     |        |
|   | SOT-89*  | Conductive Epoxy     |               | 40      |        |
|   |          | Non-Conductive Epoxy |               | 46      |        |
|   | TO-92**  | Conductive Epoxy     |               | 80      |        |
|   |          | Non-Conductive Epoxy |               | 80      |        |
| Internal Power Dissipation                  | SOT-23   | Non-Conductive Epoxy | $P_D$         | 400     | mW     |
|   | SOT-25   | Non-Conductive Epoxy |               | 400     |        |
|   | SOT-89   | Conductive Epoxy     |               | 550     |        |
|   |          | Non-Conductive Epoxy |               | 550     |        |
|   | TO-92    | Conductive Epoxy     |               | 625     |        |
|   |          | Non-Conductive Epoxy |               | 625     |        |
| Maximum Junction Temperature                |          |                      |               | 150     | °C     |
| Solder Iron (10 Sec)***                     |          |                      |               | 350     | °C     |

\* Measure  $\theta_{JC}$  on backside center of tab.

\*\* Measure  $\theta_{JC}$  on center of molding compound if IC has no tab.

\*\*\* MIL-STD-202G 210F

## ■ Electrical Specifications

TA = 25°C unless otherwise noted

| Parameter                     | Symbol        | Test Condition                                 | Min  | Typ       | Max  | Units                   |   |
|-------------------------------|---------------|--|--|-----------|------|-------------------------|---|
| Input Voltage                 | $V_{IN}$      |  | Note 1   |           | 7    | V                       |   |
| Output Voltage Accuracy       | $V_O$         | $I_O=1\text{mA}$                               | -1.5   |           | 1.5  | %                       |   |
| Dropout Voltage               | $V_{DROPOUT}$ | $I_O=300\text{mA}$<br>$V_O=V_{O(NOM)}-2.0\%$   | $1.3\text{V} \leq V_{O(NOM)} \leq 2.0\text{V}$ | See chart | 1300 | mV                      |   |
|                               |               |  | $2.0\text{V} < V_{O(NOM)} \leq 2.8\text{V}$    |           | 400  |                         |   |
|                               |               |  | $2.8\text{V} < V_{O(NOM)}$                     |           | 300  |                         |   |
|                               |               | $I_O=200\text{mA}$<br>$V_O=V_{O(NOM)}-2.0\%$   | $1.3\text{V} \leq V_{O(NOM)} < 1.5\text{V}$    | See chart | 1200 |                         |   |
|                               |               |  | $1.5\text{V} \leq V_{O(NOM)} < 1.8\text{V}$    |           | 1000 |                         |   |
|                               |               |  | $1.8\text{V} \leq V_{O(NOM)} \leq 2.0\text{V}$ |           | 700  |                         |   |
| Output Current                | $I_O$         | $V_O > 1.2\text{V}$                            | 300  |           |      | mA                      |   |
| Current Limit                 | $I_{LIM}$     | $V_O > 1.2\text{V}$                            | 300  | 450       |      | mA                      |   |
| Short Circuit Current, Note2  | $I_{SC}$      | $V_O < 0.8\text{V}$                            |  | 150       | 300  | mA                      |   |
| Quiescent Current             | $I_Q$         | $I_O=0\text{mA}$                               |  | 30        | 50   | $\mu\text{A}$           |   |
| Ground Pin Current            | $I_{GND}$     | $I_O=1\text{mA}$ to 300mA                      |  | 35        |      | $\mu\text{A}$           |   |
| Line Regulation               | $REG_{LINE}$  | $I_O=1\text{mA}$<br>$V_{IN}=V_O+1$ to $V_O+2$  | $1.3\text{V} \leq V_O \leq 1.4\text{V}$        | -0.2      |      | 0.2                     | % |
|                               |               |  | $1.4\text{V} < V_O \leq 2.0\text{V}$           | -0.15     |      | 0.15                    |   |
|                               |               |  | $2.0\text{V} < V_O < 4.0\text{V}$              | -0.1      | 0.02 | 0.1                     |   |
|                               |               |  | $4.0\text{V} \leq V_O$                         | -0.4      | 0.2  | 0.4                     |   |
| Load Regulation               | $REG_{LOAD}$  | $I_O=1\text{mA}$ to 300mA                      | -1   | 0.2       | 1    | %                       |   |
| Over Temperature Shutdown     | OTS           |  |  | 150       |      | $^{\circ}\text{C}$      |   |
| Over Temperature Hysterisis   | OTH           |  |  | 30        |      | $^{\circ}\text{C}$      |   |
| $V_O$ Temperature Coefficient | TC            |  |  | 30        |      | ppm/ $^{\circ}\text{C}$ |   |
| Power Supply Rejection        | PSRR          | $I_O=100\text{mA}$<br>$C_O=2.2\mu\text{F}$     | $f=100\text{Hz}$                               |           | 60   | dB                      |   |
|                               |               |  | $f=1\text{kHz}$                                |           | 50   |                         |   |
|                               |               |  | $f=10\text{kHz}$                               |           | 20   |                         |   |
| Output Voltage Noise          | eN            | $f=10\text{Hz}$ to 100kHz<br>$I_O=10\text{mA}$ |  |           | 30   | $\mu\text{Vrms}$        |   |

Note1:  $V_{IN(MIN)}=V_{OUT}+V_{DROPOUT}$

Note2: To prevent the Short Circuit Current protection feature from being prematurely activated, the input voltage must be applied before a current source load is applied.



## ■ Detailed Description

The AME8800/8811 family of CMOS regulators contain a PMOS pass transistor, voltage reference, error amplifier, over-current protection, and thermal shutdown.

The P-channel pass transistor receives data from the error amplifier, over-current shutdown, and thermal protection circuits. During normal operation, the error amplifier compares the output voltage to a precision reference. Over-current and Thermal shutdown circuits become active when the junction temperature exceeds 150°C, or the current exceeds 300mA. During thermal shutdown, the output voltage remains low. Normal operation is restored when the junction temperature drops below 120°C.

The AME8800/8811 switches from voltage mode to current mode when the load exceeds the rated output current. This prevents over-stress. The AME8800/8811 also incorporates current foldback to reduce power dissipation when the output is short circuited. This feature becomes active when the output drops below 0.8 volts, and reduces the current flow by 65%. Full current is restored when the voltage exceeds 0.8 volts.

## ■ External Capacitors

The AME8800/8811 is stable with an output capacitor to ground of 2.2μF or greater. Ceramic capacitors have the lowest ESR, and will offer the best AC performance. Conversely, Aluminum Electrolytic capacitors exhibit the highest ESR, resulting in the poorest AC response. Unfortunately, large value ceramic capacitors are comparatively expensive. One option is to parallel a 0.1μF ceramic capacitor with a 10μF Aluminum Electrolytic. The benefit is low ESR, high capacitance, and low overall cost.

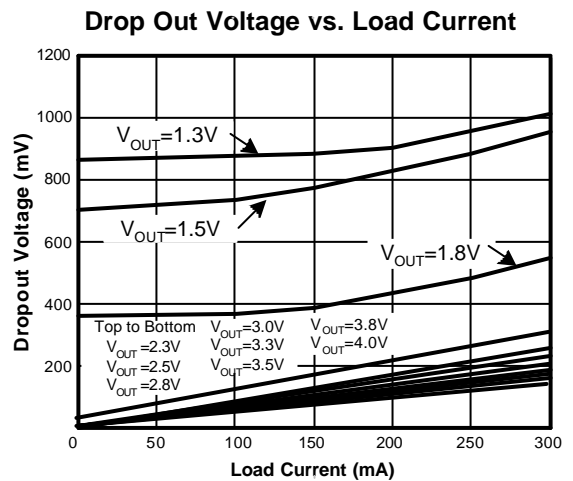
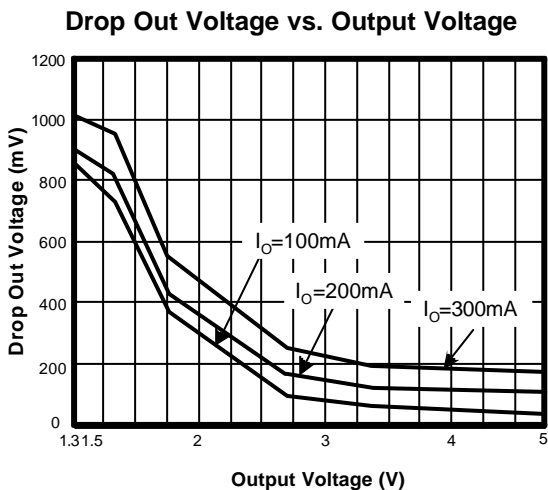
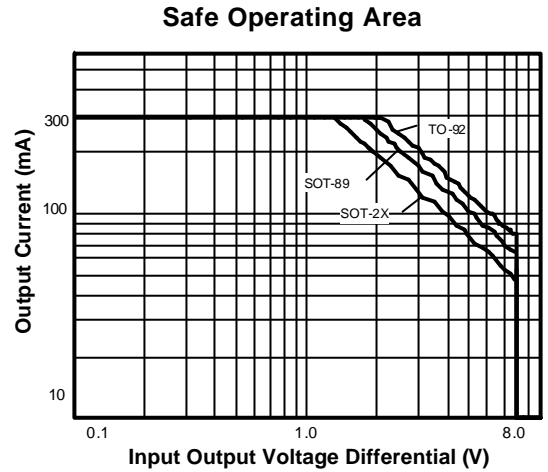
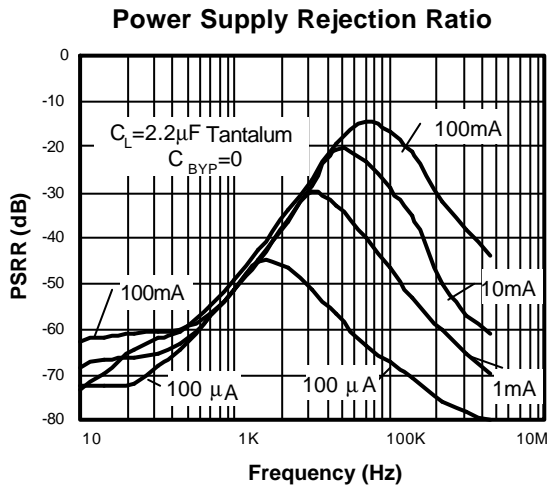
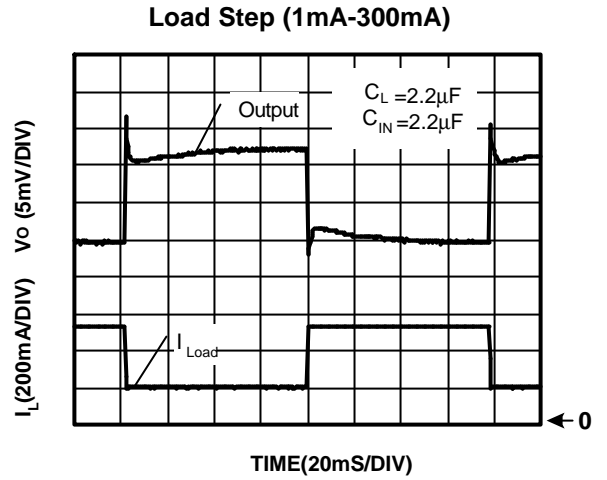
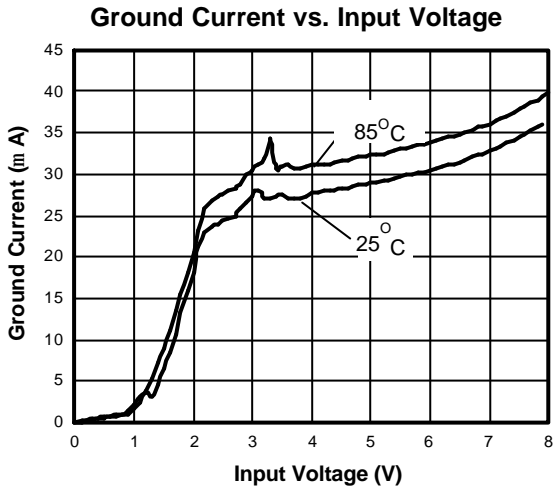
A second capacitor is recommended between the input and ground to stabilize  $V_{IN}$ . The input capacitor should be at least 0.1μF to have a beneficial effect.

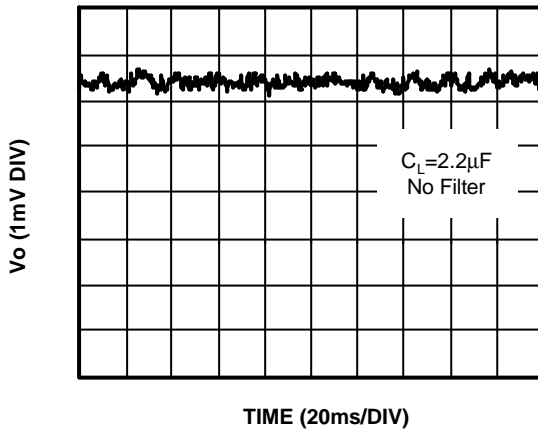
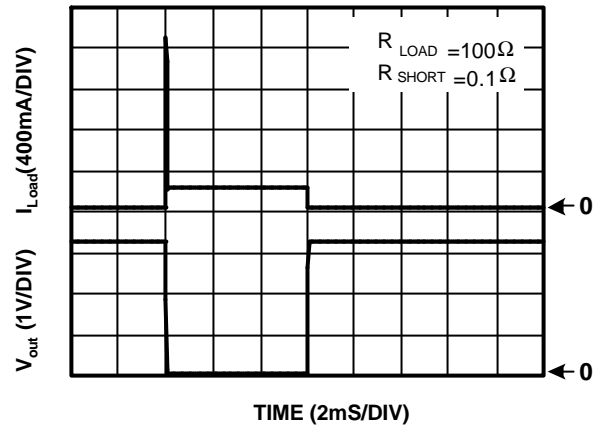
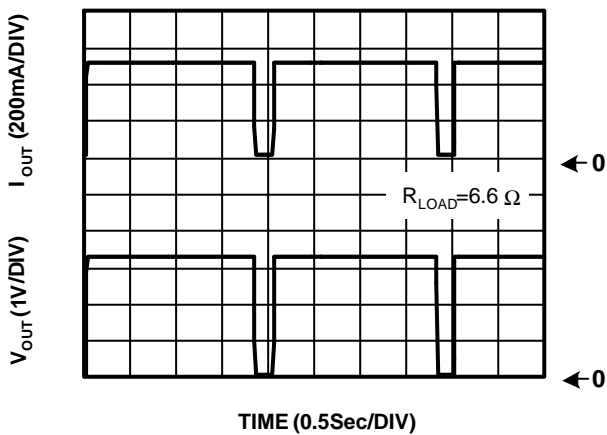
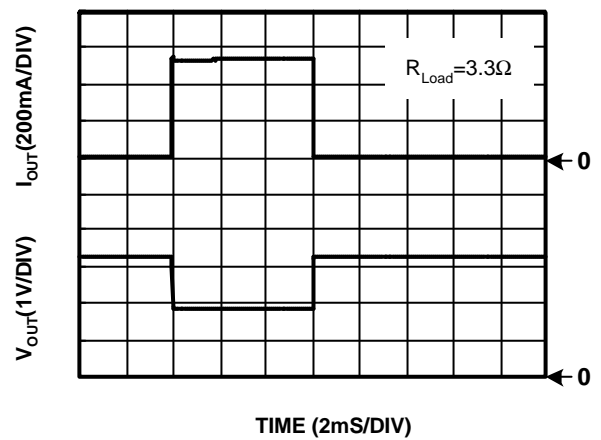
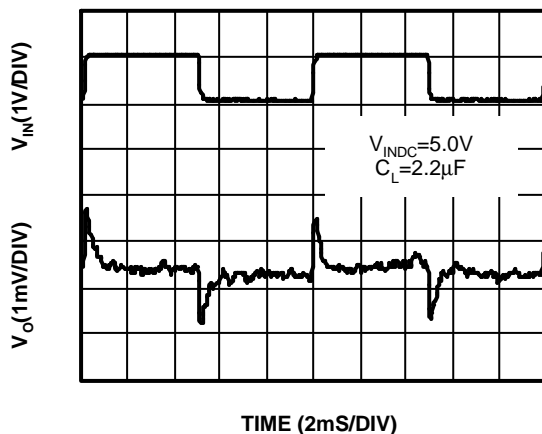
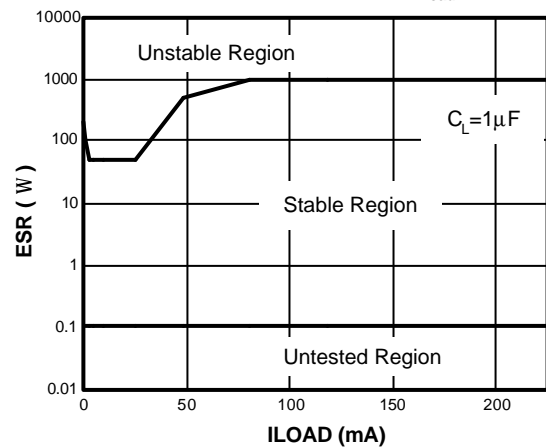
All capacitors should be placed in close proximity to the pins. A "Quiet" ground termination is desirable. This can be achieved with a "Star" connection.





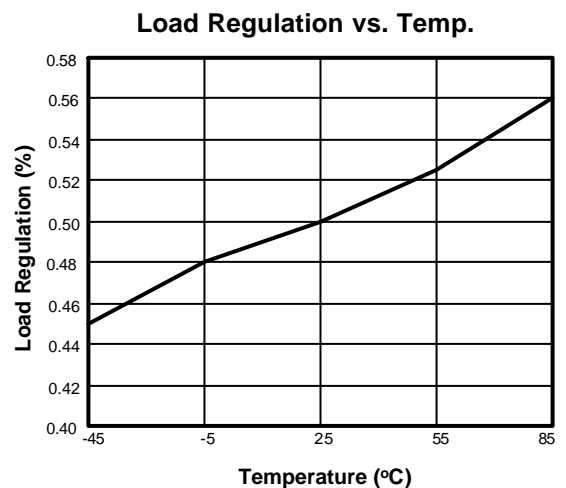
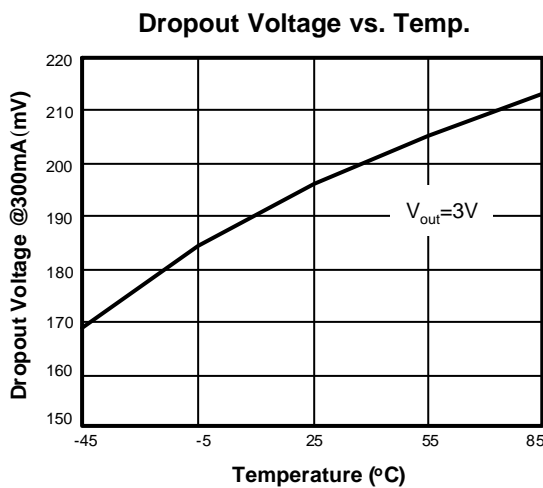
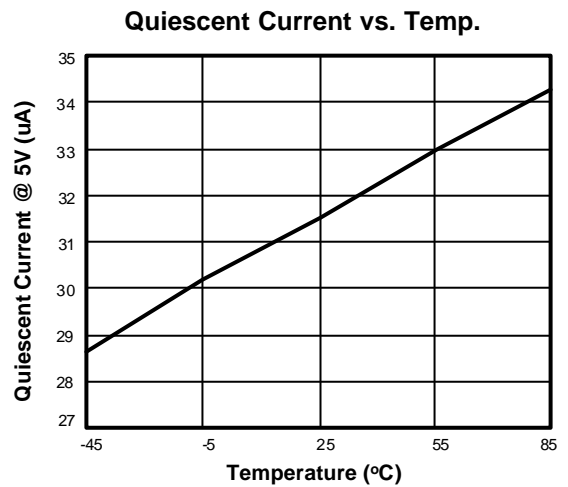
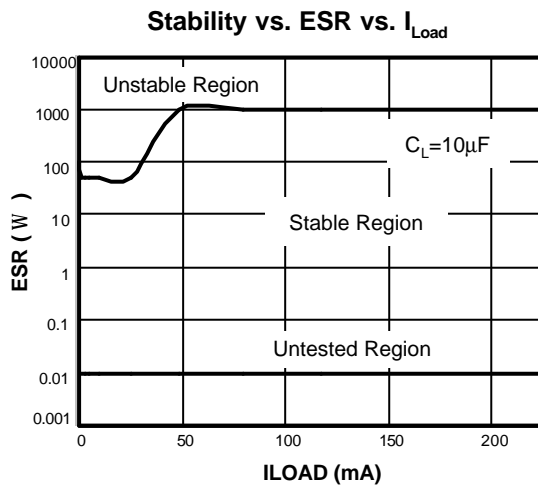
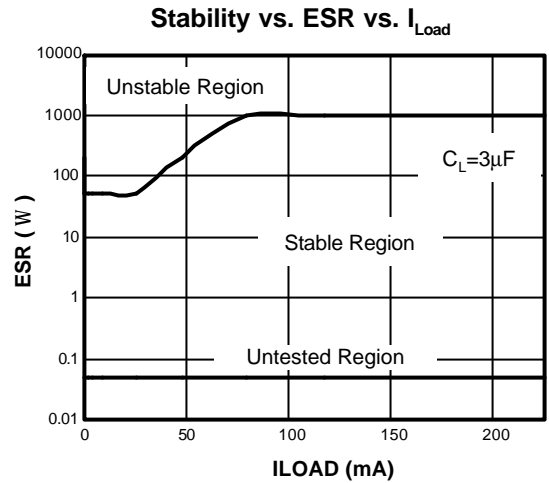
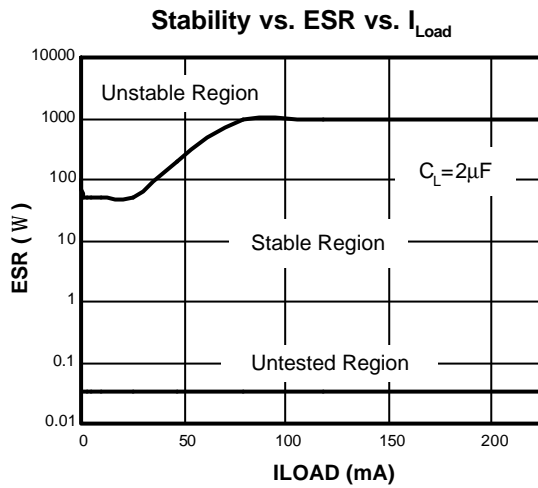
■ Characterization Curve(For reference only)



**■ Characterization Curve(For reference only)**
**Noise Measurement**

**Short Circuit Response**

**Overtemperature Shutdown**

**Current Limit Response**

**Line Transient Response**

**Stability vs. ESR vs. I<sub>Load</sub>**


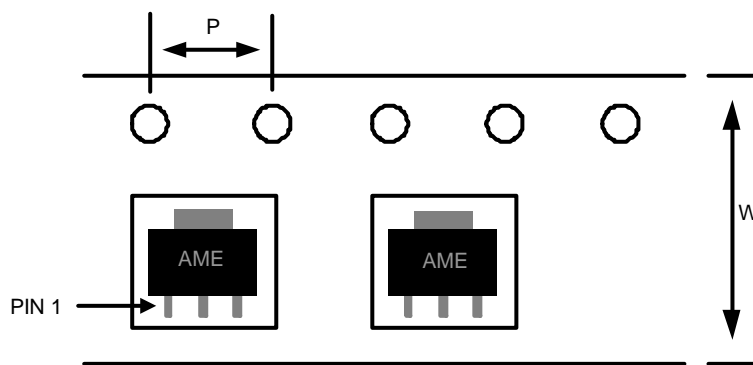


■ Characterization Curve(For reference only)

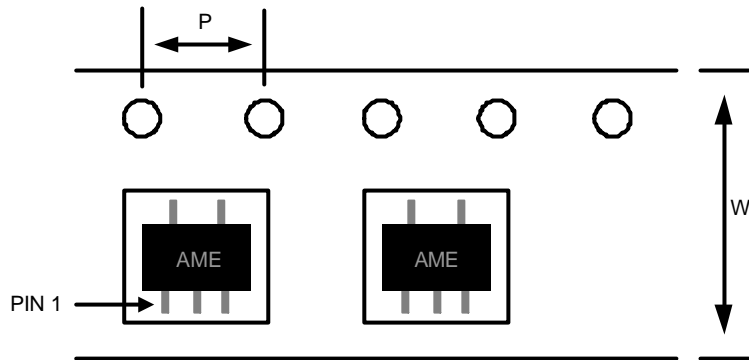


**■ Date Code Rule**

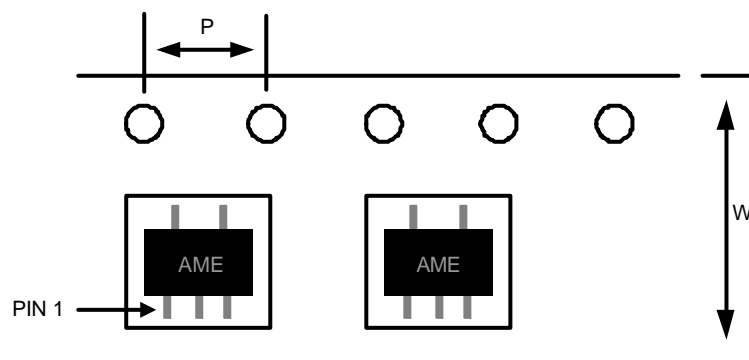
| Marking |          |          | Date Code |          | Year |
|---------|----------|----------|-----------|----------|------|
| A       | A        | A        | W         | W        | xxx0 |
| A       | A        | A        | W         | <u>W</u> | xxx1 |
| A       | A        | A        | <u>W</u>  | W        | xxx2 |
| A       | A        | A        | <u>W</u>  | <u>W</u> | xxx3 |
| A       | A        | <u>A</u> | W         | W        | xxx4 |
| A       | A        | <u>A</u> | W         | <u>W</u> | xxx5 |
| A       | A        | <u>A</u> | <u>W</u>  | W        | xxx6 |
| A       | A        | <u>A</u> | <u>W</u>  | <u>W</u> | xxx7 |
| A       | <u>A</u> | A        | W         | W        | xxx8 |
| A       | <u>A</u> | A        | W         | <u>W</u> | xxx9 |

**■ Tape and Reel Dimension**
**SOT-89**

**Carrier Tape, Number of Components Per Reel and Reel Size**

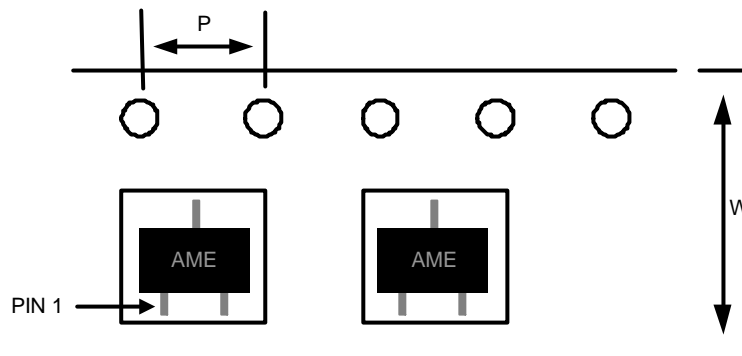
| Package | Carrier Width (W) | Pitch (P)  | Part Per Full Reel | Reel Size |
|---------|-------------------|------------|--------------------|-----------|
| SOT-89  | 12.0±0.1 mm       | 4.0±0.1 mm | 1000pcs            | 180±1 mm  |

**■ Tape and Reel Dimension**
**SOT-25**

**Carrier Tape, Number of Components Per Reel and Reel Size**

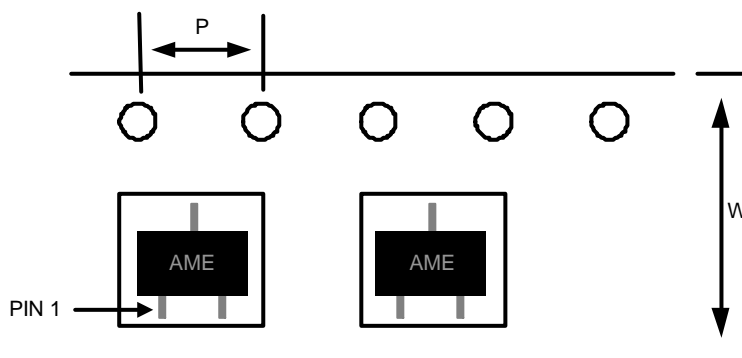
| Package | Carrier Width (W) | Pitch (P)  | Part Per Full Reel | Reel Size |
|---------|-------------------|------------|--------------------|-----------|
| SOT-25  | 8.0±0.1 mm        | 4.0±0.1 mm | 3000pcs            | 180±1 mm  |

**TSOT-25**

**Carrier Tape, Number of Components Per Reel and Reel Size**

| Package | Carrier Width (W) | Pitch (P)  | Part Per Full Reel | Reel Size |
|---------|-------------------|------------|--------------------|-----------|
| TSOT-25 | 8.0±0.1 mm        | 4.0±0.1 mm | 3000pcs            | 180±1 mm  |

**■ Tape and Reel Dimension**
**SOT-23**

**Carrier Tape, Number of Components Per Reel and Reel Size**

| Package | Carrier Width (W) | Pitch (P)  | Part Per Full Reel | Reel Size |
|---------|-------------------|------------|--------------------|-----------|
| SOT-23  | 8.0±0.1 mm        | 4.0±0.1 mm | 3000pcs            | 180±1 mm  |

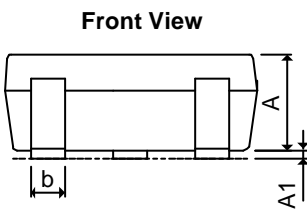
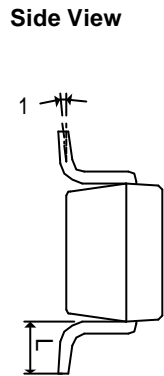
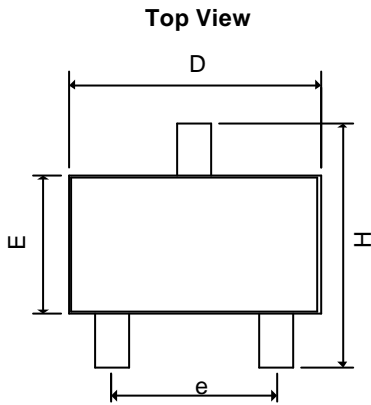
**TSOT-23**

**Carrier Tape, Number of Components Per Reel and Reel Size**

| Package | Carrier Width (W) | Pitch (P)  | Part Per Full Reel | Reel Size |
|---------|-------------------|------------|--------------------|-----------|
| TSOT-23 | 8.0±0.1 mm        | 4.0±0.1 mm | 3000pcs            | 180±1 mm  |



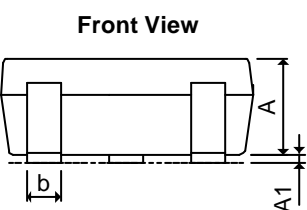
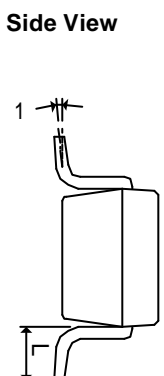
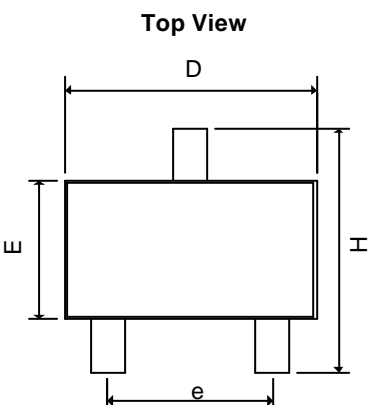
■ Package Dimension

SOT-23

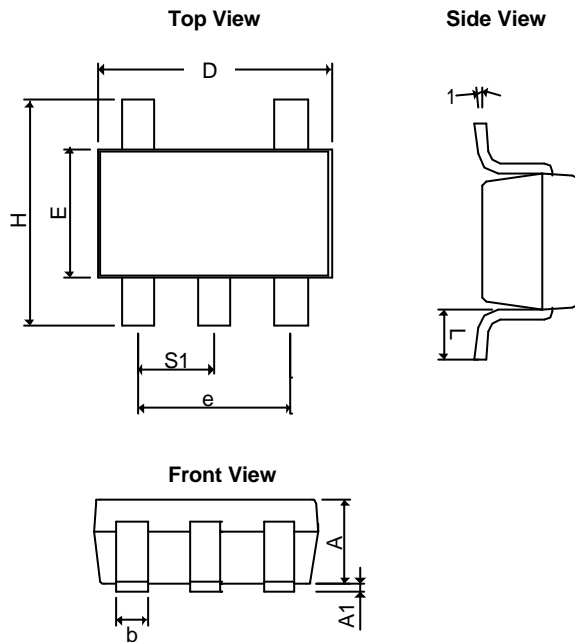


| SYMBOLS        | MILLIMETERS |      | INCHES     |         |
|----------------|-------------|------|------------|---------|
|                | MIN         | MAX  | MIN        | MAX     |
| A              | 1.00        | 1.40 | 0.0394     | 0.0551  |
| A <sub>1</sub> | 0.00        | 0.15 | 0.0000     | 0.0059  |
| b              | 0.35        | 0.50 | 0.0138     | 0.0197  |
| D              | 2.70        | 3.10 | 0.1063     | 0.1220  |
| E              | 1.40        | 1.80 | 0.0551     | 0.0709  |
| e              | 1.90 BSC    |      | 0.0748 BSC |         |
| H              | 2.40        | 3.00 | 0.09449    | 0.11811 |
| L              | 0.35BSC     |      | 0.0138BSC  |         |
| q1             | 0°          | 10°  | 0°         | 10°     |

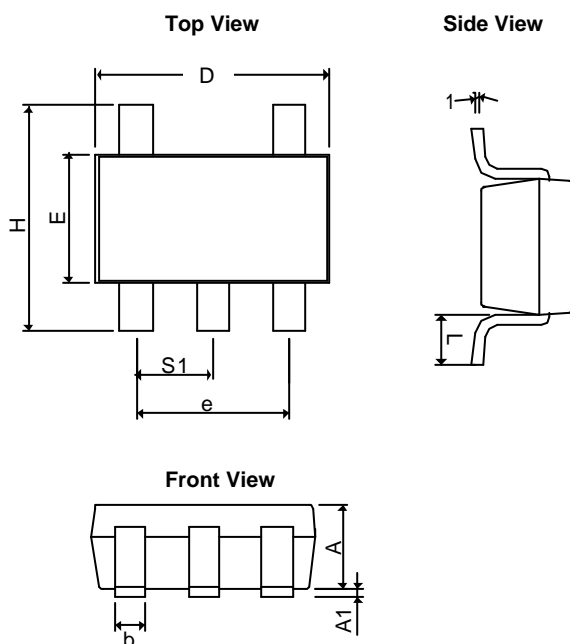
TSOT-23



| SYMBOLS          | MILLIMETERS |      | INCHES     |         |
|------------------|-------------|------|------------|---------|
|                  | MIN         | MAX  | MIN        | MAX     |
| A+A <sub>1</sub> | 0.80        | 1.30 | 0.0315     | 0.0512  |
| b                | 0.35        | 0.50 | 0.0138     | 0.0197  |
| D                | 2.70        | 3.10 | 0.1063     | 0.1220  |
| E                | 1.20        | 1.80 | 0.0472     | 0.0709  |
| e                | 1.90 BSC    |      | 0.0748 BSC |         |
| H                | 2.40        | 3.00 | 0.09449    | 0.11811 |
| L                | 0.35BSC     |      | 0.0138BSC  |         |
| q1               | 0°          | 10°  | 0°         | 10°     |

**■ Package Dimension**
**SOT-25**


| SYMBOLS        | MILLIMETERS |      | INCHES      |         |
|----------------|-------------|------|-------------|---------|
|                | MIN         | MAX  | MIN         | MAX     |
| A              | 1.20REF     |      | 0.0472REF   |         |
| A <sub>1</sub> | 0.00        | 0.15 | 0.0000      | 0.0059  |
| b              | 0.30        | 0.55 | 0.0118      | 0.0217  |
| D              | 2.70        | 3.10 | 0.1063      | 0.1220  |
| E              | 1.40        | 1.80 | 0.0551      | 0.0709  |
| e              | 1.90 BSC    |      | 0.07480 BSC |         |
| H              | 2.60        | 3.00 | 0.10236     | 0.11811 |
| L              | 0.37BSC     |      | 0.0146BSC   |         |
| q1             | 0°          | 10°  | 0°          | 10°     |
| S <sub>1</sub> | 0.95BSC     |      | 0.0374BSC   |         |

**TSOT-25**


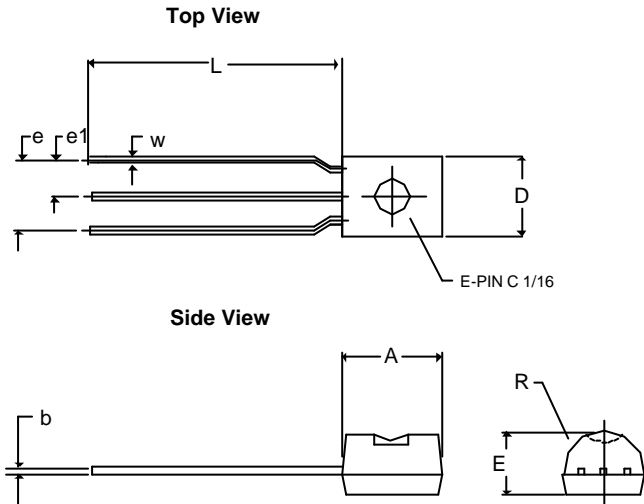
| SYMBOLS          | MILLIMETERS |      | INCHES      |         |
|------------------|-------------|------|-------------|---------|
|                  | MIN         | MAX  | MIN         | MAX     |
| A+A <sub>1</sub> | 0.90        | 1.25 | 0.0354      | 0.0492  |
| b                | 0.30        | 0.50 | 0.0118      | 0.0197  |
| D                | 2.70        | 3.10 | 0.1063      | 0.1220  |
| E                | 1.40        | 1.80 | 0.0551      | 0.0709  |
| e                | 1.90 BSC    |      | 0.07480 BSC |         |
| H                | 2.40        | 3.00 | 0.09449     | 0.11811 |
| L                | 0.35BSC     |      | 0.0138BSC   |         |
| q1               | 0°          | 10°  | 0°          | 10°     |
| S <sub>1</sub>   | 0.95BSC     |      | 0.0374BSC   |         |





■ Package Dimension

TO-92-3 (tape pack)

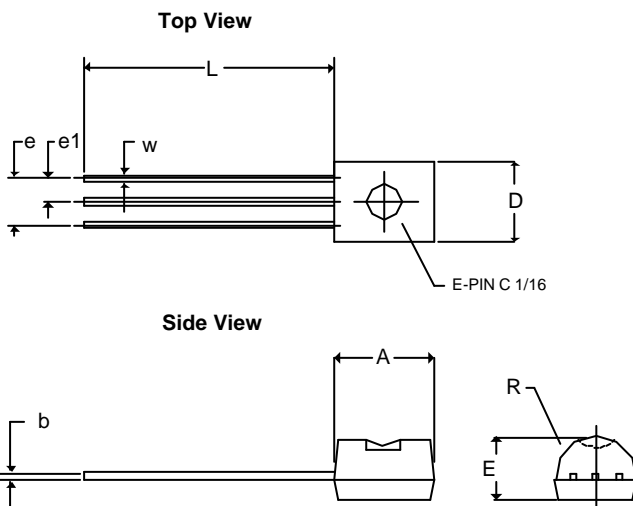


| SYMBOLS | MILLIMETERS |       | INCHES    |        |
|---------|-------------|-------|-----------|--------|
|         | MIN         | MAX   | MIN       | MAX    |
| A       | 2.80        | 4.95  | 0.1102    | 0.1949 |
| b       | 0.40REF     |       | 0.0157REF |        |
| E       | 2.40        | 3.94  | 0.0945    | 0.1551 |
| e       | 5.08REF     |       | 0.2REF    |        |
| e1      | 2.54REF     |       | 0.1REF    |        |
| L       | 12.70       | 15.49 | 0.5000    | 0.6098 |
| R       | 2.00        |       | 0.0787    |        |
| W       | 0.35        | 0.76  | 0.0138    | 0.0299 |
| D       | 3.80        | 4.95  | 0.1496    | 0.1949 |

Notes:

1. Package outline exclusive of any mold flashes.
2. Package outline exclusive of burr dimension.
3. Lead pitch=2.54mm is bulk pack.
4. Lead pitch=5.08mm is tape pack.

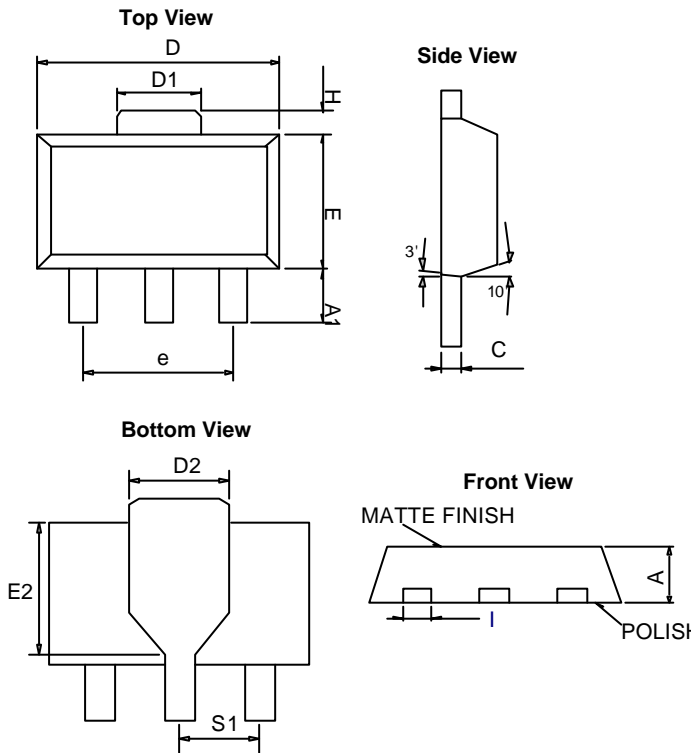
TO-92-3 (bulk pack)



| SYMBOLS | MILLIMETERS |       | INCHES    |        |
|---------|-------------|-------|-----------|--------|
|         | MIN         | MAX   | MIN       | MAX    |
| A       | 2.80        | 4.95  | 0.1102    | 0.1949 |
| b       | 0.40REF     |       | 0.0157REF |        |
| E       | 3.94REF     |       | 0.1551REF |        |
| e       | 2.54REF     |       | 0.1000REF |        |
| e1      | 1.27REF     |       | 0.0500REF |        |
| L       | 12.70       | 15.49 | 0.5000    | 0.6098 |
| R       | 2.29        |       | 0.0902    |        |
| W       | 0.35        | 0.76  | 0.0138    | 0.0299 |
| D       | 3.80        | 4.95  | 0.1496    | 0.1949 |

Notes:

1. Package outline exclusive of any mold flashes dimension.
2. Package outline exclusive of burr dimension.
3. Lead pitch=2.54mm is bulk pack.
4. Lead pitch=5.08mm is tape pack.

**■ Package Dimension**
**SOT-89**


| SYMBOLS              | MILLIMETERS |      | INCHES      |         |
|----------------------|-------------|------|-------------|---------|
|                      | MIN         | MAX  | MIN         | MAX     |
| <b>A</b>             | 1.39        | 1.60 | 0.05472     | 0.06299 |
| <b>A<sub>1</sub></b> | 0.8 REF     |      | 0.0315 REF  |         |
| <b>C</b>             | 0.35        | 0.44 | 0.01378     | 0.01732 |
| <b>D</b>             | 4.39        | 4.60 | 0.17283     | 0.18110 |
| <b>D<sub>1</sub></b> | 1.35        | 1.83 | 0.05315     | 0.07205 |
| <b>E</b>             | 2.28        | 3.60 | 0.08976     | 0.14173 |
| <b>I</b>             | 0.36        | 0.56 | 0.01417     | 0.02204 |
| <b>e</b>             | 3.00 REF    |      | 0.11811 REF |         |
| <b>H</b>             | 0.70 REF    |      | 0.02756 REF |         |
| <b>S<sub>1</sub></b> | 1.50 REF    |      | 0.05906 REF |         |
| <b>E<sub>2</sub></b> | 2.05        | 2.60 | 0.08071     | 0.10236 |
| <b>D<sub>2</sub></b> | 1.50        | 1.85 | 0.05905     | 0.07283 |



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