

Description

The GM1112 is a positive low dropout regulator and is available in an adjustable version and fixed output voltage at 1.2V. All internal circuitry is designed to operate down to 800mV input to output differential and the dropout voltage is fully specified as a function of load current. On chip trimming adjusts the reference/output voltage to within $\pm 1\%$. Current limit is also trimmed in order to minimize the stress on both the regulator and the power source circuitry under overloaded conditions.

Features

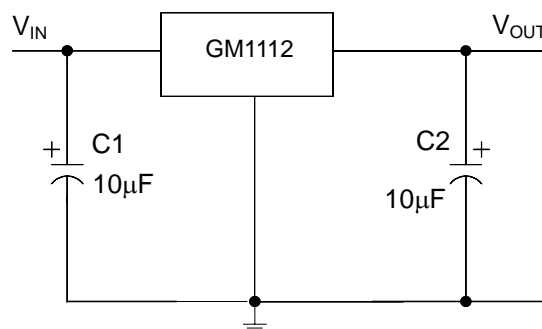
- ◆ Fixed Output, 1.2V
- ◆ Output Current of 1.0A
- ◆ Dropout Voltage 1.5V max @ 1.0A
- ◆ Line Regulation 0.2% max.
- ◆ Load Regulation 0.4% max.
- ◆ Fast Transient Response
- ◆ Current Limit Protection
- ◆ Thermal Shutdown Protection

Application

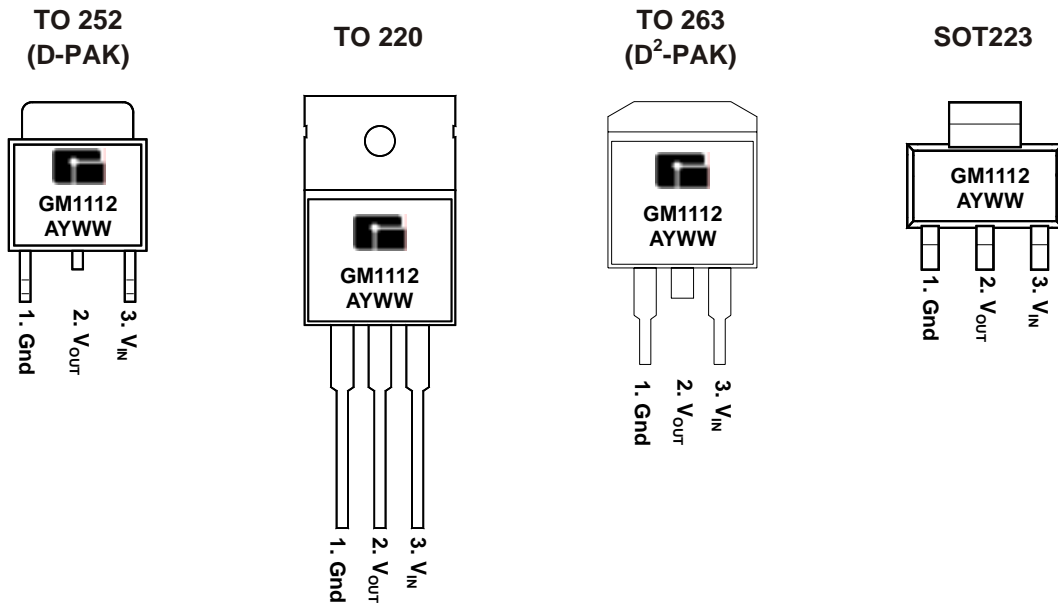
High Efficiency Linear Regulators
Post Regulators for Switching Supplies
Microprocessor Supply

Battery Powered Equipment
Reference Voltage Sources
Hard Drive Controllers
Battery Chargers
Adjustable Power Supply

Typical Application Circuits



Marking Information and Pin Configurations (Top View)



A: Assembly / Test site code
Y: Year
WW: Week

Ordering Information

| Ordering Number | Package | Shipping |
|-----------------|---------|---------------------------|
| GM1112ST3T | SOT-223 | 80 Units/Tube |
| GM1112ST3R | SOT-223 | 2,500 Units / Tape & Reel |
| GM1112TC3T | TO-252 | 80 Units/Tube |
| GM1112TC3R | TO-252 | 2,500 Units / Tape & Reel |
| GM1112TB3T | TO-220 | 50 Units/Tube |
| GM1112TA3T | TO-263 | 50 Units/Tube |
| GM1112TA3R | TO-263 | 800 Units / Tape & Reel |

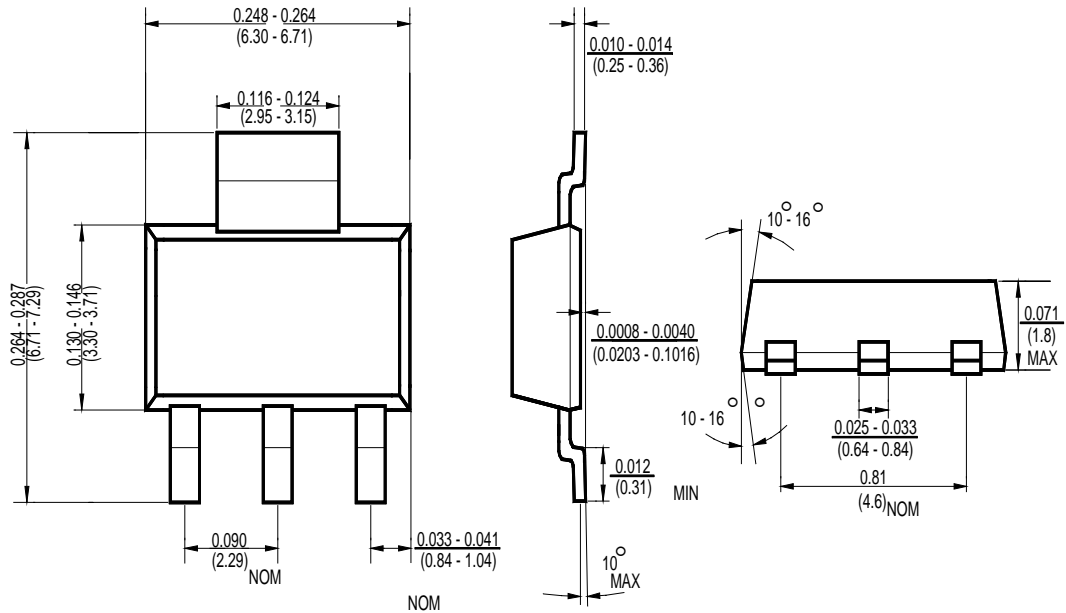
Absolute Maximum Ratings

| PARAMETER | SYMBOL | RATINGS | UNITS |
|---|-----------------------------|-------------|-------|
| Input Voltage | V_{IN} | 15 | V |
| Thermal Resistance, Junction to Case | SOT-223 | 15.0 | /W |
| | TO-252 (D PAK) | 6.0 | |
| | TO-263 (D ² PAK) | 3.0 | |
| Operating Junction Temperature | T_J | 0 to 125 | |
| Storage Temperature | T_{stg} | - 40 to 125 | |

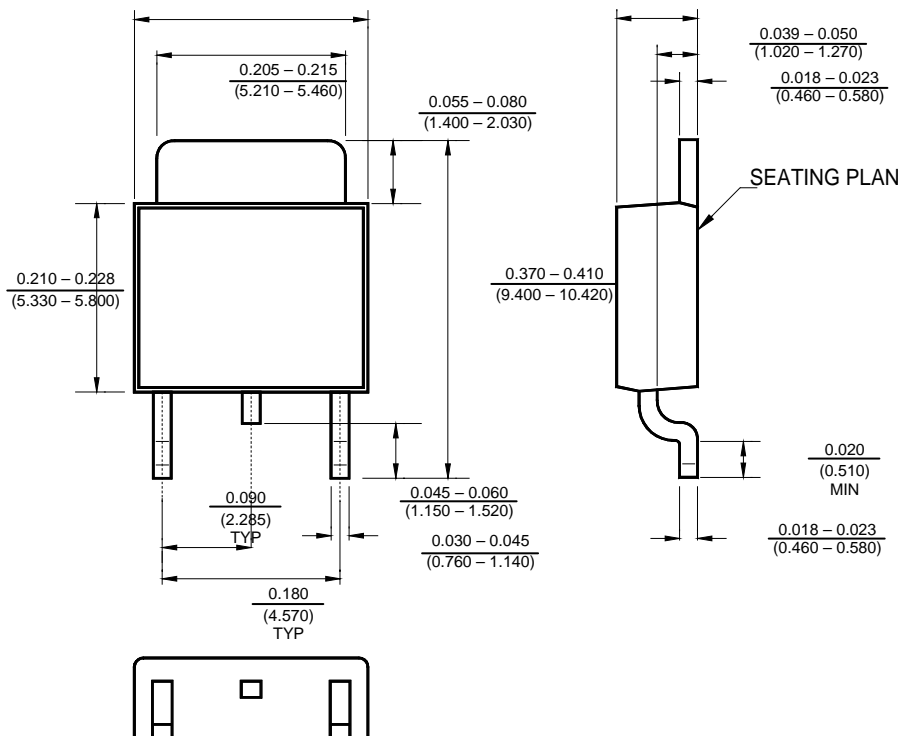
Electrical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise noted)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|-----------------|--|------|-------|------|------|
| Output Voltage | V_{OUT} | $I_{OUT} = 10\text{mA}$, $V_{IN} = 5\text{V}$ | 1.18 | 1.20 | 1.26 | V |
| | | $10\text{mA} \leq I_{OUT} \leq 1.0\text{A}$, $2.65\text{V} \leq V_{IN} \leq 7\text{V}$ | 1.17 | 1.20 | 1.27 | |
| Line Regulation | ΔV_{OI} | $I_{OUT} = 10\text{mA}$, $2.75\text{V} \leq V_{IN} \leq 7\text{V}$ | | 0.04 | 0.2 | %/V |
| Line Regulation | ΔV_{OL} | $V_{IN} = V_{OUT} + 1\text{V}$ $10\text{mA} \leq I_{OUT} \leq 1.0\text{A}$ | | 0.2 | 0.4 | %/mA |
| Dropout Voltage | ΔV | $I_{OUT} = 1\text{A}$ | | 1.15 | 1.3 | V |
| Current Limit | I_{CL} | $V_{IN} = V_{OUT} + 3\text{V}$ | 1.1 | 3.1 | | A |
| Quiescent Current (Fixed Output Voltage Versions) | I_Q | $V_{IN} = V_{OUT} + 1\text{V}$ $10\text{mA} \leq I_{OUT} \leq 1.0\text{A}$ | | 7 | 13 | mA |
| Temperature Coefficient | | $V_{IN} = V_{OUT} + 1.5\text{V}$ $I_{OUT} = 10\text{mA}$ | | 0.005 | | %/°C |
| Thermal Regulation | T_C | $T_A = 25^\circ\text{C}$, 30ms pulse | | 0.003 | | %/W |
| Ripple Rejection | R_A | $V_{IN} = V_{OUT} + 1.5\text{V}$ $I_{OUT} = 10\text{mA}$ | 60 | 72 | | dB |

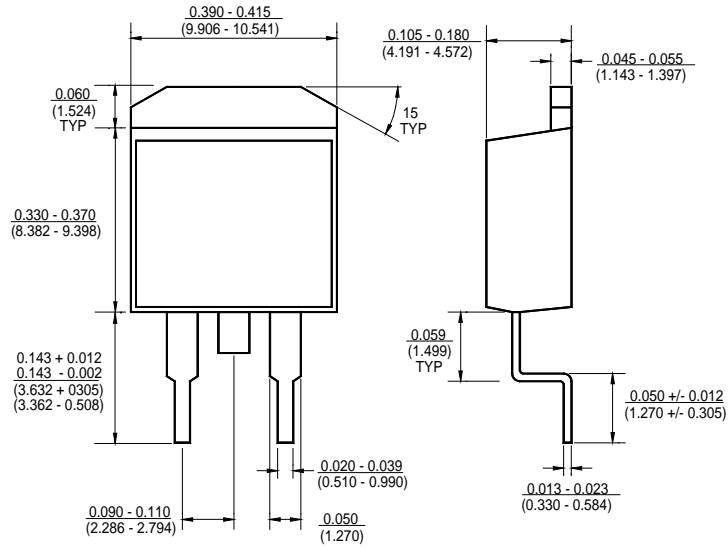
Package Outline Dimensions – SOT223



Package Outline Dimensions – TO252



Package Outline Dimensions – TO263





GM1112

1A LOW DROPOUT
PRECISION VOLTAGE REGULATOR

Ordering Number

GM 1112 ST3 R

| APM Gamma Micro | Circuit Type | Package Type | Shipping Type |
|--------------------|-----------------|---|-----------------------------|
| | | ST3: SOT223 TA3: TO263 TB3: TO220 TC3: TO252 | R: Taping & Reel T: Tube |