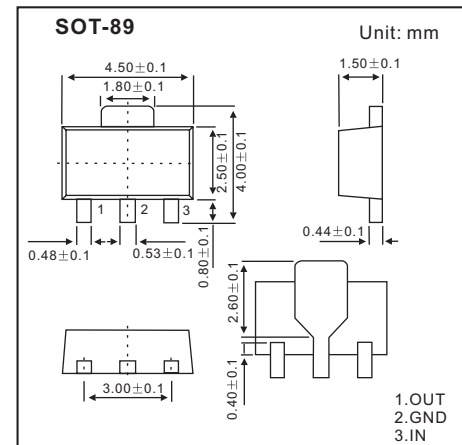


Three-Terminal Positive Voltage Regulator

LM78L08



■ Features

- Maximum Output current I_o : 0.1A
- Output Voltage V_o : 8V
- Continuous Total Dissipation P_D : 0.5W ($T_a = 25^\circ\text{C}$)

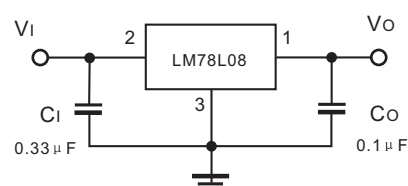
■ Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|--------------------------------------|-----------|------------|------------------|
| Input Voltage | V_i | 30 | V |
| Operating Junction Temperature Range | T_{OPR} | -55 ~ +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 ~ +150 | $^\circ\text{C}$ |

■ Electrical Characteristics ($V_i=14\text{V}$, $I_o=40\text{mA}$, $C_i=0.33\ \mu\text{F}$, $C_o=0.1\ \mu\text{F}$, unless otherwise specified)

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--------------------------|--------------|---|-----|-----|-----|---------------|
| Output Voltage | V_o | $T_J = 25^\circ\text{C}$ | 7.7 | 8.0 | 8.3 | V |
| | | $T_J = 0\sim 125^\circ\text{C}$, $10.5\text{V} \leq V_i \leq 23\text{V}$, $I_o = 1\text{mA} \sim 40\text{mA}$ | 7.6 | 8.0 | 8.4 | V |
| | | $T_J = 0\sim 125^\circ\text{C}$, $I_o = 1\text{mA} \sim 70\text{mA}$ | 7.6 | 8.0 | 8.4 | V |
| Load Regulation | ΔV_o | $T_J = 25^\circ\text{C}$, $I_o = 1\text{mA} \sim 100\text{mA}$ | | 18 | 80 | mV |
| | | $T_J = 25^\circ\text{C}$, $I_o = 1\text{mA} \sim 40\text{mA}$ | | 10 | 40 | mV |
| Line Regulation | ΔV_o | $T_J = 25^\circ\text{C}$, $10.5\text{V} \leq V_i \leq 23\text{V}$ | | 42 | 175 | mV |
| | | $T_J = 25^\circ\text{C}$, $11\text{V} \leq V_i \leq 23\text{V}$ | | 36 | 125 | mV |
| Quiescent Current | I_q | $T_J = 25^\circ\text{C}$ | | 4 | 6 | mA |
| Quiescent current Change | ΔI_q | $T_J = 0\sim 125^\circ\text{C}$, $11\text{V} \leq V_i \leq 23\text{V}$ | | | 1.5 | mA |
| | | $T_J = 0\sim 125^\circ\text{C}$, $1\text{mA} \leq I_o \leq 40\text{mA}$ | | | 0.1 | mA |
| Output Noise Voltage | V_N | $T_J = 25^\circ\text{C}$, $10\text{Hz} \leq f \leq 100\text{kHz}$ | | 54 | | μV |
| Ripple Rejection | RR | $T_J = 0\sim 125^\circ\text{C}$, $13\text{V} \leq V_i \leq 23\text{V}$, $f = 120\text{Hz}$ | 37 | 46 | | dB |
| Dropout Voltage | V_D | $T_J = 25^\circ\text{C}$ | | 1.7 | | V |

■ Typical Application



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

LM78L08

■ Typical Characteristics

