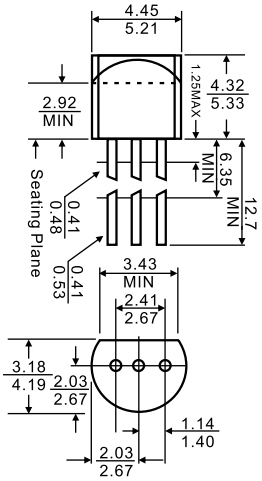
# 78L08

Three-terminal positive voltage regulator

RoHS COMPLIANT


1. OUT
2. GND
3. IN

**TO-92**




**Dimensions in inches and (millimeters)**

## Features

- ✧ Maximum Output current
  $I_{OM:}$ 0.1 A
- ✧ Output voltage
  $V_o$: 8 V
- ✧ Continuous total dissipation
  $P_D$: 0. 625W

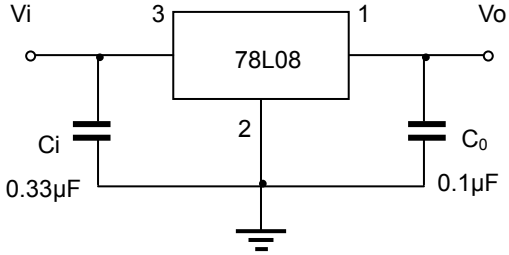
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Input Voltage | $V_I$ | 30 | V |
| Operating Junction Temperature Range | $T_{OPR}$ | 0~+125 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55~+150 | ℃ |

**ELECTRICAL CHARACTERISTICS (Vi=14V, Io=40mA,$C_i$=0.33μF,Co=0.1μF, unless otherwise specified )**

| Parameter | Symbol | Test conditions | | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Output voltage | Vo | | 25℃ | 7.7 | 8.0 | 8.3 | V |
| | | 10.5V≤$V_I$≤23V, Io=1mA~40mA | 0-125℃ | 7.6 | 8.0 | 8.4 | V |
| | | Io=1mA~70mA | | 7.6 | 8.0 | 8.4 | V |
| Load Regulation | ΔVo | Io=1mA~100mA | 25℃ | | 18 | 80 | mV |
| | | Io=1mA~40mA | 25℃ | | 10 | 40 | mV |
| Line regulation | ΔVo | 10.5V≤$V_I$≤23V | 25℃ | | 42 | 175 | mV |
| | | 11V≤$V_I$≤23V | 25℃ | | 36 | 125 | mV |
| Quiescent Current | Iq | | 25℃ | | 4 | 6 | mA |
| Quiescent Current Change | ΔIq | 11V≤$V_I$≤23V | 0-125℃ | | | 1.5 | mA |
| | ΔIq | 1mA≤$I_O$≤40mA | 0-125℃ | | | 0.1 | mA |
| Output Noise Voltage | $V_N$ | 10Hz≤f≤100KHz | 25℃ | | 54 | | uV |
| Ripple Rejection | RR | 13V≤$V_I$≤23V,f=120Hz | 0-125℃ | 37 | 46 | | dB |
| Dropout Voltage | Vd | | 25℃ | | 1.7 | | V |

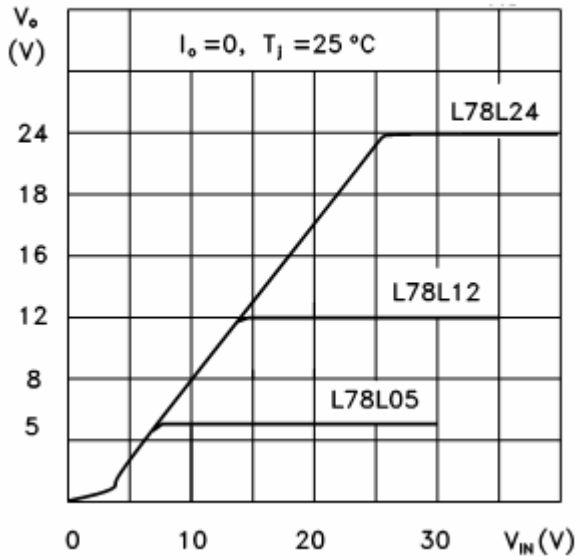
**TYPICAL APPLICATION**



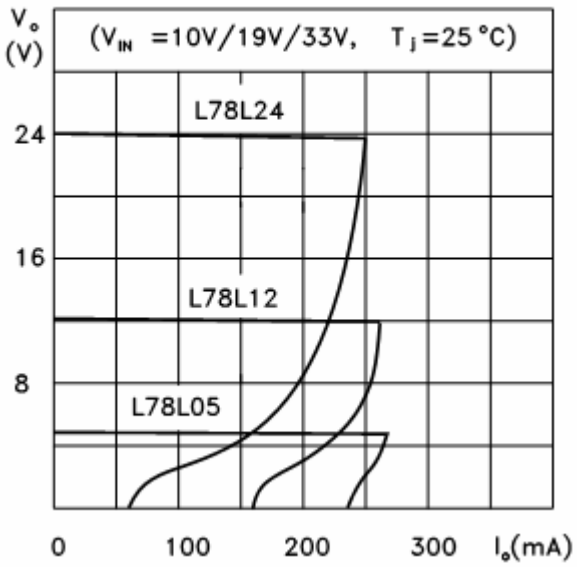

Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

## Typical Characteristics

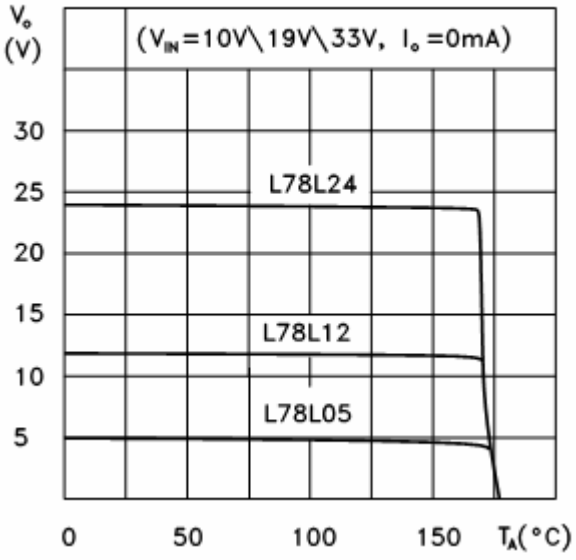
L78L05/12/24 Output Characteristics



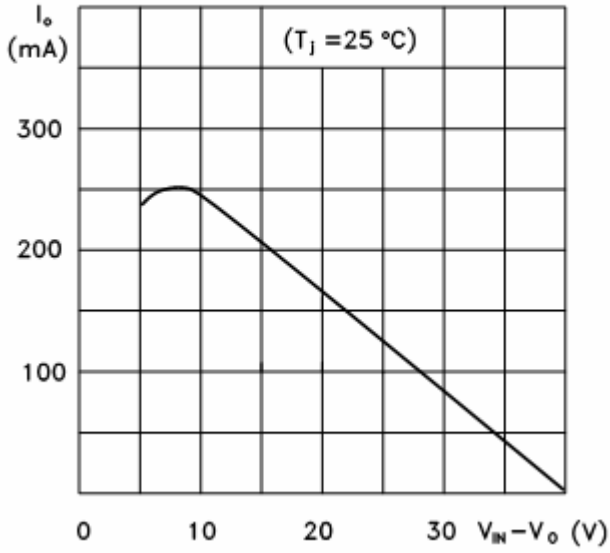

L78L05/12/24 Load Characteristics




L78L05/12/24 Thermal Shutdown




L78L00 Series Short Circuit Output Current




L78L05 Quiescent Current vs Input Voltage