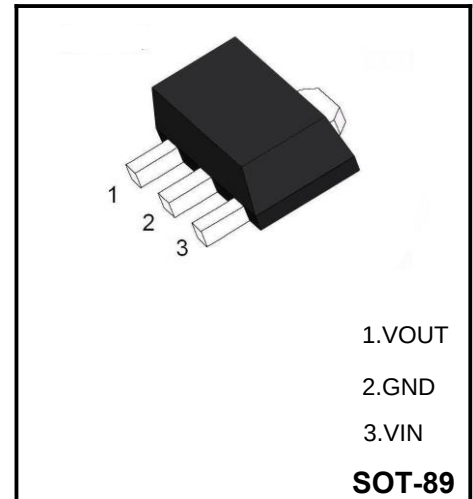


**Three-Terminal Positive Voltage Regulator**

**Features**

- Maximum Output current  $I_o$ : 0.1A
- Output Voltage  $V_o$ : 15V
- Continuous Total Dissipation  $P_d$ : 0.5W ( $T_a = 25^\circ\text{C}$ )



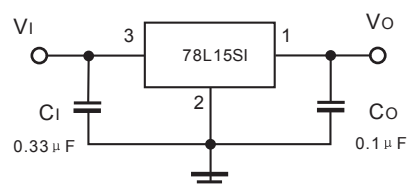
**Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )**

| Parameter                            | Symbol    | Rating     | Unit             |
|--------------------------------------|-----------|------------|------------------|
| Input Voltage                        | $V_i$     | 35         | V                |
| Operating Junction Temperature Range | $T_{OPR}$ | -55 ~ +125 | $^\circ\text{C}$ |
| Storage Temperature Range            | $T_{STG}$ | -55 ~ +150 | $^\circ\text{C}$ |

**Electrical Characteristics ( $T_a=25^\circ\text{C}$ , unless otherwise specified)**

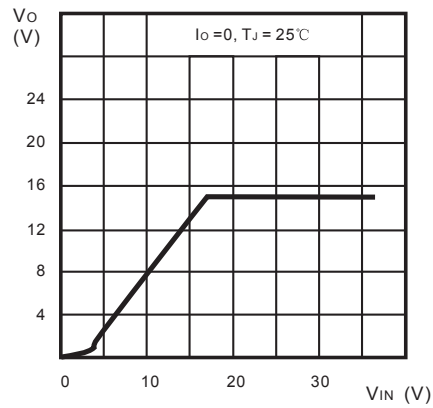
| Parameter                | Symbol       | Test conditions                                                                                                  | Min   | Typ | Max   | Unit          |
|--------------------------|--------------|------------------------------------------------------------------------------------------------------------------|-------|-----|-------|---------------|
| Output Voltage           | $V_o$        | $T_J = 25^\circ\text{C}$                                                                                         | 14.4  | 15  | 15.6  | V             |
|                          |              | $T_J = 0 \sim 125^\circ\text{C}$ , $17.5\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 1\text{mA} \sim 40\text{mA}$ | 14.25 | 15  | 15.75 | V             |
|                          |              | $T_J = 0 \sim 125^\circ\text{C}$ , $V_i = 23\text{V}$ , $I_o = 1\text{mA} \sim 70\text{mA}$                      | 14.25 | 15  | 15.75 | V             |
| Load Regulation          | $\Delta V_o$ | $T_J = 25^\circ\text{C}$ , $V_i = 23\text{V}$ , $I_o = 1\text{mA} \sim 100\text{mA}$                             |       | 25  | 150   | mV            |
|                          |              | $T_J = 25^\circ\text{C}$ , $V_i = 23\text{V}$ , $I_o = 1\text{mA} \sim 40\text{mA}$                              |       | 15  | 75    | mV            |
| Line Regulation          | $\Delta V_o$ | $T_J = 25^\circ\text{C}$ , $17.5\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 40\text{mA}$                         |       | 65  | 300   | mV            |
|                          |              | $T_J = 25^\circ\text{C}$ , $19\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 40\text{mA}$                           |       | 58  | 250   | mV            |
| Quiescent Current        | $I_q$        | $T_J = 25^\circ\text{C}$                                                                                         |       | 4.6 | 6.5   | mA            |
| Quiescent current Change | $\Delta I_q$ | $T_J = 0 \sim 125^\circ\text{C}$ , $19\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 40\text{mA}$                   |       |     | 1.5   | mA            |
|                          |              | $T_J = 0 \sim 125^\circ\text{C}$ , $V_i = 23\text{V}$ , $1\text{mA} \leq I_o \leq 40\text{mA}$                   |       |     | 0.1   |               |
| Output Noise Voltage     | $V_N$        | $T_J = 25^\circ\text{C}$ , $10\text{Hz} \leq f \leq 100\text{KHz}$                                               |       | 82  |       | $\mu\text{V}$ |
| Ripple Rejection         | RR           | $T_J = 0 \sim 125^\circ\text{C}$ , $18.5\text{V} \leq V_i \leq 28.5\text{V}$ , $f = 120\text{Hz}$                | 34    | 39  |       | dB            |
| Dropout Voltage          | $V_D$        | $T_J = 25^\circ\text{C}$                                                                                         |       | 1.7 |       | V             |

**Typical applications**

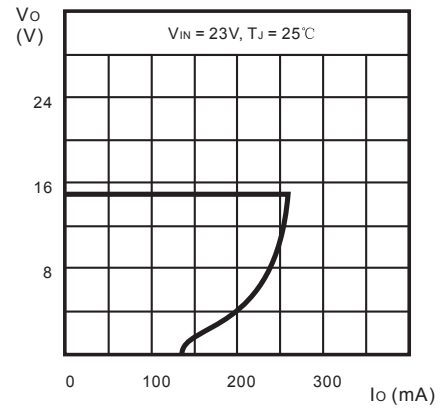


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

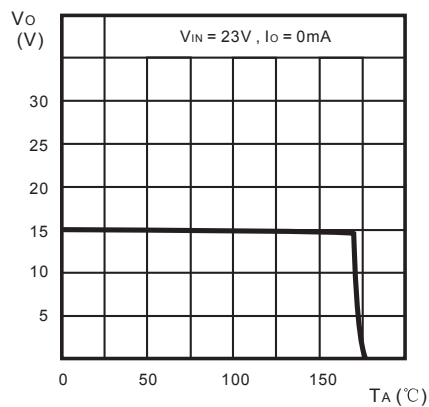
## Typical Characteristics



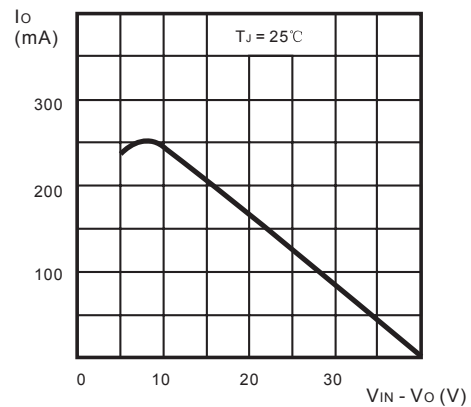
Output Characteristics



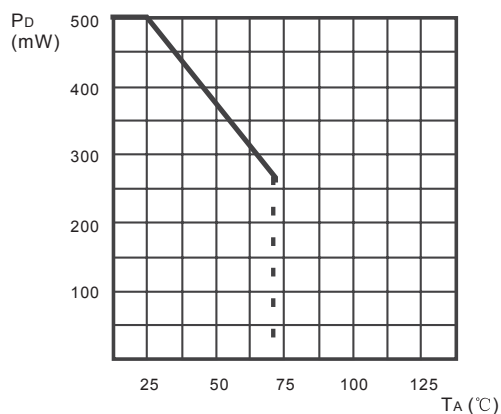
Load Characteristics



Thermal Shutdown



Short Circuit Output Current



Power Dissipation vs. Ambient Temperature

**Ordering information**

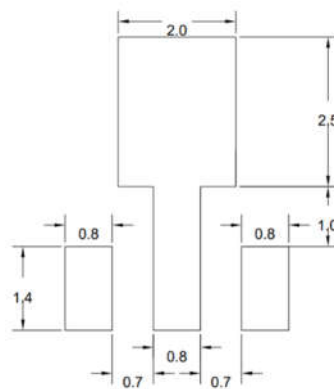
| Package | Packing Description | Base Quantity | Packing Quantity            |
|---------|---------------------|---------------|-----------------------------|
| SOT-89  | Tape/Reel, 7" reel  | 1000pcs/Reel  | 6000PCS/Box 30000PCS/Carton |

**Package Dimensions**

**SOT-89**

| Dim | Millimeter |      | Inches |       |
|-----|------------|------|--------|-------|
|     | Min.       | Max. | Min.   | Max.  |
| A   | 1.40       | 1.60 | 0.055  | 0.063 |
| b   | 0.32       | 0.52 | 0.013  | 0.020 |
| b1  | 0.38       | 0.58 | 0.015  | 0.023 |
| c   | 0.35       | 0.45 | 0.014  | 0.018 |
| D   | 4.40       | 4.60 | 0.173  | 0.181 |
| D1  | 1.45       | 1.65 | 0.057  | 0.065 |
| D2  | 1.70       | 1.80 | 0.067  | 0.071 |
| E   | 2.30       | 2.60 | 0.091  | 0.102 |
| E1  | 3.95       | 4.25 | 0.156  | 0.167 |
| E2  | 1.80       | 2.00 | 0.071  | 0.079 |
| e   | 1.40       | 1.60 | 0.055  | 0.063 |
| e1  | 2.80       | 3.20 | 0.110  | 0.126 |
| L   | 0.90       | 1.20 | 0.035  | 0.047 |

**The recommended mounting pad size**



UNIT:MM

## Disclaimer

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