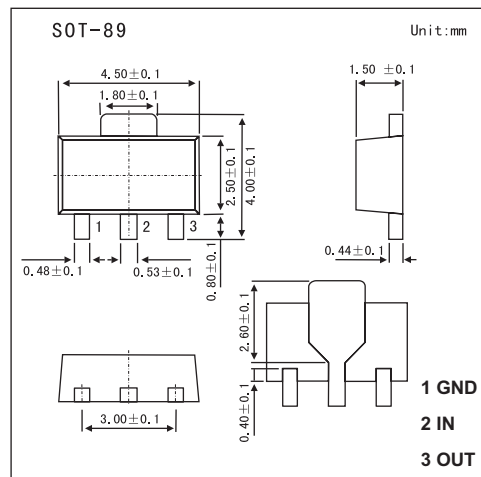


## Three-terminal Negative Voltage Regulator

## LM79L15

## ■ Features

- Maximum Output current  $I_{OM}$ : 0.1 A
- Output voltage  $V_O$ : -15V
- Continuous total dissipation  $P_D$ : 0.5 W

■ 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 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range            | $T_{STG}$ | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics ( $V_I = -23\text{V}$ ,  $I_O = 40\text{mA}$ ,  $0^\circ\text{C} < T_J < 125^\circ\text{C}$ ,  $C_1 = 0.33\ \mu\text{F}$ ,  $C_O = 0.1\ \mu\text{F}$ , 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             |
|                          |              | $-17.5\text{V} \leq V_I \leq -30\text{V}$ , $I_O = 1\text{mA} - 40\text{mA}$                                | -14.25 | -15 | -15.75 | V             |
|                          |              | $I_O = 1\text{mA} - 70\text{mA}$                                                                            | -14.25 | -15 | -15.75 | V             |
| Load Regulation          | $\Delta V_O$ | $T_J = 25^\circ\text{C}$ , $I_O = 1\text{mA}$ to $100\text{mA}$ , $V_I = -23\text{V}$                       |        | 25  | 150    | mV            |
|                          |              | $T_J = 25^\circ\text{C}$ , $I_O = 1\text{mA}$ to $40\text{mA}$ , $V_I = -23\text{V}$                        |        | 15  | 75     | mV            |
| Line regulation          | $\Delta V_O$ | $-17.5\text{V} \leq V_I \leq -30\text{V}$ , $T_J = 25^\circ\text{C}$ , $I_O = 40\text{mA}$                  |        | 65  | 300    | mV            |
|                          |              | $-20\text{V} \leq V_I \leq -30\text{V}$ , $T_J = 25^\circ\text{C}$ , $I_O = 40\text{mA}$                    |        | 50  | 250    | mV            |
| Quiescent Current        | $I_q$        | $25^\circ\text{C}$                                                                                          |        |     | 6.5    | mA            |
| Quiescent Current Change | $\Delta I_q$ | $0^\circ\text{C} < T_J < 125^\circ\text{C}$ , $-20\text{V} \leq V_I \leq -30\text{V}$ , $I_O = 40\text{mA}$ |        |     | 1.5    | mA            |
|                          | $\Delta I_q$ | $0^\circ\text{C} < T_J < 125^\circ\text{C}$ , $1\text{mA} \leq I_O \leq 40\text{mA}$                        |        |     | 0.1    | mA            |
| Output Noise Voltage     | $V_N$        | $10\text{Hz} \leq f \leq 100\text{kHz}$ , $T_J = 25^\circ\text{C}$                                          |        | 90  |        | $\mu\text{V}$ |
| Ripple Rejection         | $RR$         | $-18.5\text{V} \leq V_I \leq -28.5\text{V}$ , $f = 120\text{Hz}$                                            | 34     | 39  |        | dB            |
| Dropout Voltage          | $V_d$        | $T_J = 25^\circ\text{C}$                                                                                    |        | 1.7 |        | V             |

## ■ Typical Application

