

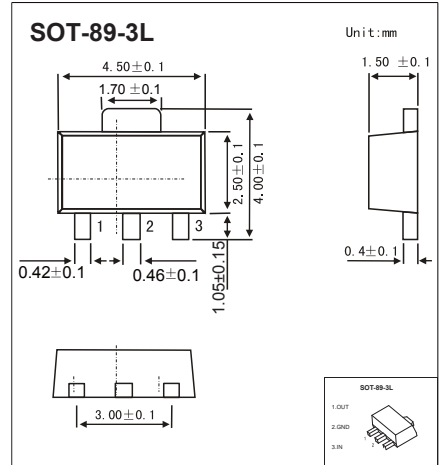
## Three-terminal positive voltage regulator

### FEATURES

- Maximum output current IOM: 0.1 A
- Output voltage  $V_O$ : -5V
- Continuous total dissipation  
 $P_D$ : 0.6W (  $T_a = 25^\circ\text{C}$  )

### MECHANICAL DATA

- Case: SOT-89 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



### ABSOLUTE MAXIMUM RATINGS

(Operating temperature range applies unless otherwise specified)

| Parameter                                   | Symbol          | Value    | Unit                      |
|---|-----------------|----------|---------------------------|
| Input Voltage                               | $V_i$           | -30      | V                         |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 208.3    | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range        | $T_{OPR}$       | 0~+150   | $^\circ\text{C}$          |
| Storage Temperature Range                   | $T_{STG}$       | -65~+150 | $^\circ\text{C}$          |

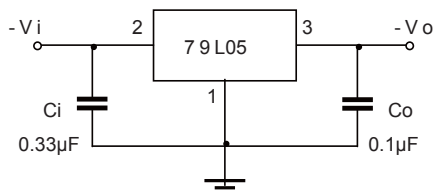
### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION

TEMPERATURE ( $V_i = -10\text{V}$ ,  $I_o = 40\text{mA}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified)

| Parameter                | Symbol       | Test conditions  | Min  | Typ   | Max  | Unit              |   |
|--------------------------|--------------|--|--|-------|------|-------------------|---|
| Output Voltage           | $V_o$        | $25^\circ\text{C}$   | -4.8   | -5.0  | -5.2 | V                 |   |
|                          |              | 0-125 $^\circ\text{C}$   | $-7\text{V} \leq V_i \leq -20\text{V}$ , $I_o = 1\text{mA} \sim 40\text{mA}$ | -4.75 | -5.0 | -5.25             | V |
|                          |              |  | $I_o = 1\text{mA} \sim 70\text{mA}$  | -4.75 | -5.0 | -5.25             | V |
| Load Regulation          | $\Delta V_o$ | $I_o = 1\text{mA} \sim 100\text{mA}$ , $25^\circ\text{C}$                            |  | 20    | 60   | mV                |   |
|                          |              | $I_o = 1\text{mA} \sim 40\text{mA}$ , $25^\circ\text{C}$                             |  | 10    | 30   | mV                |   |
| Line Regulation          | $\Delta V_o$ | $-7\text{V} \leq V_i \leq -20\text{V}$ , $25^\circ\text{C}$                          |  | 15    | 150  | mV                |   |
|                          |              | $-8\text{V} \leq V_i \leq -20\text{V}$ , $25^\circ\text{C}$                          |  | 12    | 100  | mV                |   |
| Quiescent Current        | $I_q$        | $25^\circ\text{C}$   |  |       | 6    | mA                |   |
| Quiescent Current Change | $\Delta I_q$ | $-8\text{V} \leq V_i \leq -20\text{V}$ , 0-125 $^\circ\text{C}$                      |  |       | 1.5  | mA                |   |
|                          | $\Delta I_q$ | $1\text{mA} \leq V_i \leq 40\text{mA}$ , 0-125 $^\circ\text{C}$                      |  |       | 0.1  | mA                |   |
| Output Noise Voltage     | $V_N$        | 10Hz $\leq f \leq$ 100KHz, $25^\circ\text{C}$  |  | 40    |      | $\mu\text{V}/V_o$ |   |
| Ripple Rejection         | RR           | $-8\text{V} \leq V_i \leq -18\text{V}$ , $f = 120\text{Hz}$ , 0-125 $^\circ\text{C}$ | 41   | 49    |      | dB                |   |
| Dropout Voltage          | $V_d$        | $25^\circ\text{C}$   |  | 1.7   |      | V                 |   |

\* Pulse test.

### TYPICAL APPLICATION

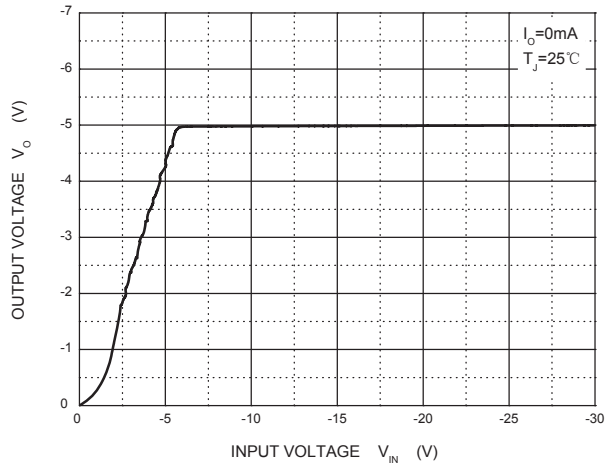


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

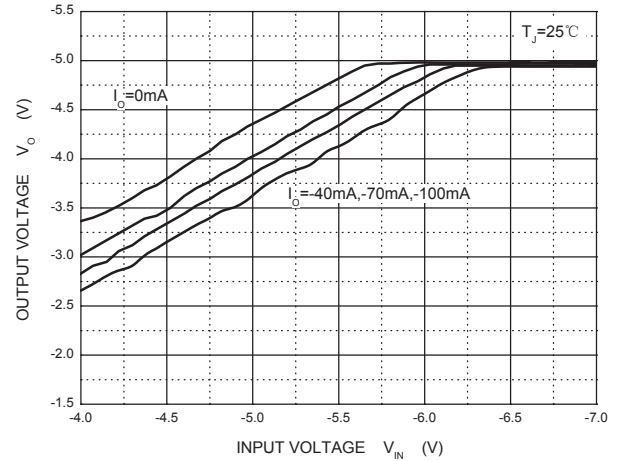
# RATINGS AND CHARACTERISTIC CURVES

## TYPICAL APPLICATION

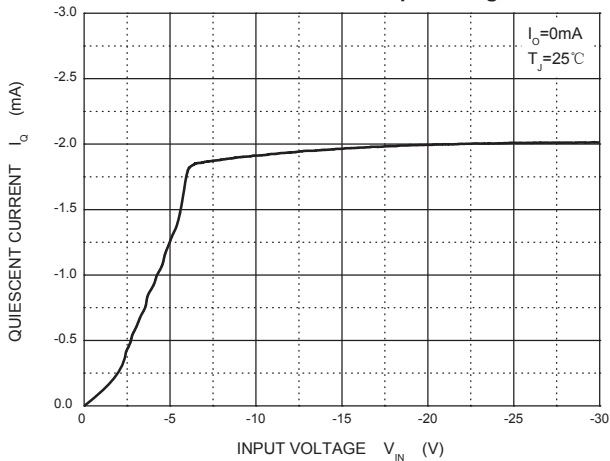
**Output Characteristics**



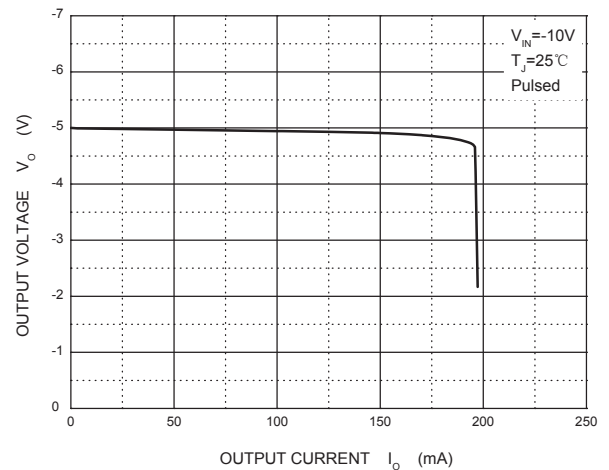
**Dropout Characteristics**



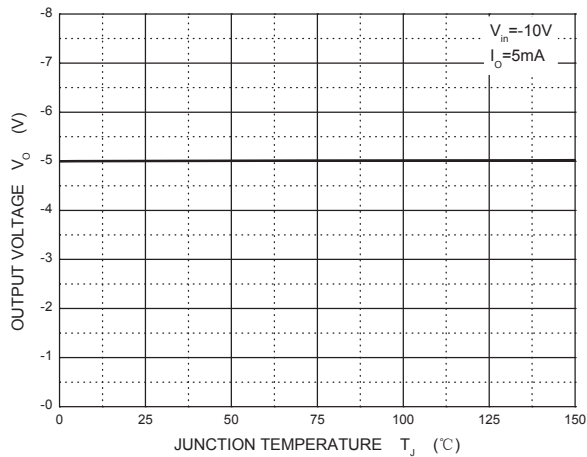
**Quiescent Current vs Input Voltage**



**Current Cut-off Grid Voltage**



**Output Voltage vs Junction Temperature**



**Power Derating Curve**

