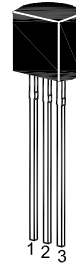


# 78L06

## 3-Terminal positive voltage regulator

### Features

- Internal short-circuit current limiting
- Internal thermal overload protection
- Maximum output current of 100 mA ( $T_j = 25^\circ\text{C}$ )



1. Output 2. Common 3. Input  
TO-92 Plastic Package

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

| Parameter                 | Symbol    | Value         | Unit             |
|---------------------------|-----------|---------------|------------------|
| Input Voltage             | $V_{IN}$  | 35            | V                |
| Power Dissipation         | $P_{tot}$ | 625           | mW               |
| Operating Temperature     | $T_{opr}$ | - 30 to + 75  | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

### Electrical Characteristics (Unless otherwise specified, $V_{IN} = 11\text{ V}$ , $I_{OUT} = 40\text{ mA}$ , $C_{IN} = 0.33\text{ }\mu\text{F}$ , $C_{OUT} = 0.1\text{ }\mu\text{F}$ , $T_j = 25^\circ\text{C}$ )

| Parameter                                                                                                             | Symbol               | Min. | Typ.      | Max.       | Unit                       |
|-----------------------------------------------------------------------------------------------------------------------|----------------------|------|-----------|------------|----------------------------|
| Output Voltage                                                                                                        | $V_{OUT}$            | 5.76 | 6         | 6.24       | V                          |
| Input Regulation<br>$8.1\text{ V} \leq V_{IN} \leq 21\text{ V}$<br>$9\text{ V} \leq V_{IN} \leq 21\text{ V}$          | Reg. line            | -    | 50<br>45  | 150<br>110 | mV                         |
| Load Regulation<br>$1\text{ mA} \leq I_{OUT} \leq 100\text{ mA}$<br>$1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$      | Reg. load            | -    | 12<br>5.5 | 70<br>35   | mV                         |
| Output Voltage<br>$8.1\text{ V} \leq V_{IN} \leq 21\text{ V}$<br>$1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$         | $V_{OUT}$            | 5.7  | -         | 6.3        | V                          |
| Output Voltage<br>$V_{IN} = 11\text{ V}$<br>$1\text{ mA} \leq I_{OUT} \leq 70\text{ mA}$                              | $V_{OUT}$            | 5.7  | -         | 6.3        | V                          |
| Quiescent Current                                                                                                     | $I_B$                | -    | 3.1       | 6          | mA                         |
| Quiescent Current Change<br>$9\text{ V} \leq V_{IN} \leq 20\text{ V}$<br>$1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$ | $\Delta I_B$         | -    | -         | 1.5<br>0.1 | mA                         |
| Output Noise Voltage<br>at $T_a = 25^\circ\text{C}$ , $10\text{ Hz} \leq f \leq 100\text{ KHz}$                       | $V_{NO}$             | -    | 40        | -          | $\mu\text{V}$              |
| Ripple Rejection<br>at $f = 120\text{ Hz}$ , $9\text{ V} \leq V_{IN} \leq 19\text{ V}$ , $T_j = 25^\circ\text{C}$     | RR                   | 39   | 47        | -          | dB                         |
| Dropout Voltage<br>at $T_j = 25^\circ\text{C}$                                                                        | $ V_{IN} - V_{OUT} $ | -    | 1.7       | -          | V                          |
| Average Temperature Coefficient of Output Voltage<br>at $I_{OUT} = 5\text{ mA}$                                       | $TC_{VO}$            | -    | -0.7      | -          | $\text{mV}/^\circ\text{C}$ |

