

Obsolete

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Micro Commercial Components

Micro Commercial Components  
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## Features

- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Case Material: Molded Plastic. UL Flammability Classification Rating 94-0 and MSL Rating 1
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

## Maximum Ratings

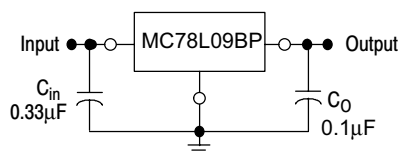
| Parameter                      | Symbol    | Value      | Unit |
|--------------------------------|-----------|------------|------|
| Input Voltage                  | $V_1$     | 30         | V    |
| Operating Junction Temperature | $T_{OPR}$ | 0 ---+120  | °C   |
| Storage Temperature Range      | $T_{STG}$ | -55---+150 | °C   |

**Electrical Characteristics ( $V_1=15V$ ,  $I_o=40mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  
 $C_1=0.33\mu F$ ,  $C_o=0.1\mu F$ , unless otherwise specified)**

| Parameter                | Sym          | Min   | Typ          | Max            | Test conditions                                                                            |
|--------------------------|--------------|-------|--------------|----------------|--------------------------------------------------------------------------------------------|
| Output Voltage           | $V_o$        | 8.64V | 9.0V         | 9.36V          | $T_j=25^\circ C$                                                                           |
|                          |              | 8.55V |              | 9.45V          | $12.0V \leq V_1 \leq 24V$ ,<br>$I_o=1mA-40mA$                                              |
|                          |              | 8.55V |              | 9.45V          | $11.5V \leq V_1 \leq V_{MAX}$ ,<br>$I_o=1mA-70mA$ (Note)                                   |
| Load Regulation          | $\Delta V_o$ |       | 20mV         | 90mV           | $I_o=1mA-100mA$ ,<br>$T_j=25^\circ C$ ,                                                    |
|                          |              |       | 11mV         | 40mV           | $I_o=1mA-40mA$ ,<br>$T_j=25^\circ C$ ,                                                     |
| Line regulation          | $\Delta V_o$ |       | 45mV<br>40mV | 175mV<br>125mV | $12.0V \leq V_1 \leq 24V$ , $T_j=25^\circ C$<br>$13V \leq V_1 \leq 24V$ , $T_j=25^\circ C$ |
| Quiescent Current        | $I_q$        |       | 4.1mA        | 6.0mA          | $13V \leq V_1 \leq 24V$                                                                    |
|                          | $\Delta I_q$ |       |              | 1.5mA          |                                                                                            |
| Quiescent Current Change | $\Delta I_q$ |       |              | 0.1mA          | $1mA \leq I_o \leq 40mA$                                                                   |
| Output Noise Voltage     | $V_N$        |       | 49uV         |                | $10Hz \leq f \leq 100KHz$                                                                  |
| Ripple Rejection         | RR           |       | 45dB         |                | $15V \leq V_1 \leq 23V$<br>$f=120Hz$ , $T_j=25^\circ C$                                    |
| Dropout Voltage          | $V_d$        |       | 1.7V         |                | $T_j=25^\circ C$                                                                           |

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

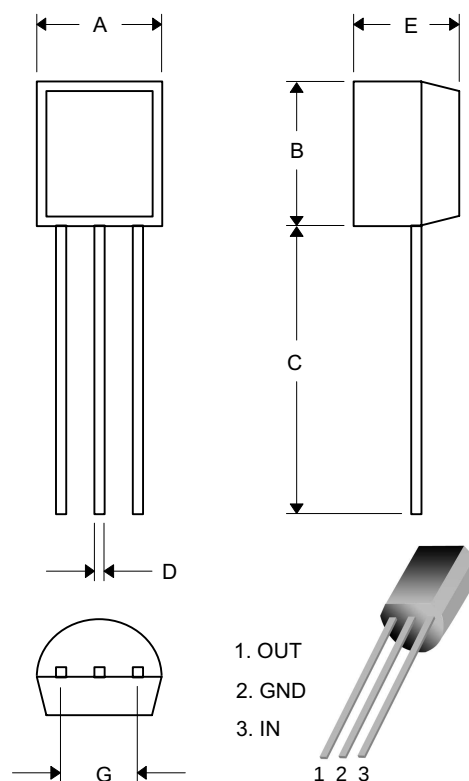
Typical Application:



# MC78L09BP

## Three-Terminal Low Current Positive Voltage Regulator

TO-92



| DIMENSIONS |        |      |      |      |      |
|------------|--------|------|------|------|------|
| DIM        | INCHES |      | MM   |      | NOTE |
|            | MIN    | MAX  | MIN  | MAX  |      |
| A          | .175   | .185 | 4.45 | 4.70 |      |
| B          | .175   | .185 | 4.46 | 4.70 |      |
| C          | .500   | ---  | 12.7 | ---  |      |
| D          | .016   | .020 | 0.41 | 0.63 |      |
| E          | .135   | .145 | 3.43 | 3.68 |      |
| G          | .095   | .105 | 2.42 | 2.67 |      |

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## Ordering Information

| Device           | Packing                    |
|------------------|----------------------------|
| (Part Number)-AP | Ammo Packing;2Kpcs/AmmoBox |
| (Part Number)-BP | Bulk;1Kpcs/Bag             |

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