



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

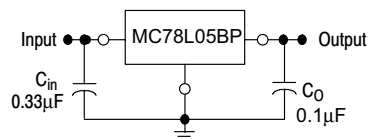
| Parameter | Symbol | Value | Unit |
|--------------------------------|------------------|------------|------|
| Input Voltage (Vo=5.8V) | V ₁ | 30 | V |
| Operating Junction Temperature | T _{OPR} | -20---+120 | °C |
| Storage Temperature Range | T _{STG} | -55---+150 | °C |

Electrical Characteristics (V₁=10V, I_o=40mA, 0°C <T_J<125°C, C₁=0.33µF, C_o=0.1µF, unless otherwise specified)

| Parameter | Sym | Min | Typ | Max | Test conditions |
|--------------------------|-----------------------------------|------|------------|----------------|--|
| Output Voltage | V _o | 4.8V | 5.0V | 5.2V | T _J =25°C |
| | | 4.7V | | 5.25V | 7V ≤ V ₁ ≤ 20V, I _o =1mA-40mA |
| | | 5.0V | | 5.25V | 7V ≤ V ₁ ≤ V _{MAX} , I _o =1mA-700mA (Note) |
| Load Regulation | ΔV _o | | 11mV | 60mV | I _o =1mA-100mA, T _J =25°C, |
| | | | 5.0mV | 30mV | I _o =1mA-40mA, T _J =25°C |
| Line regulation | ΔV _o | | 8mV 6mV | 150mV 100mV | 7V ≤ V ₁ ≤ 20V, T _J =25°C 8V ≤ V ₁ ≤ 20V, T _J =25°C |
| Quiescent Current | I _q ΔI _q | | 2.0mA | 5.5mA 1.5mA | 8V ≤ V ₁ ≤ 20V |
| Quiescent Current Change | ΔI _q | | | 0.1mA | 1mA ≤ I _o ≤ 40mA |
| Output Noise Voltage | V _N | | 40µV | | 10Hz ≤ f ≤ 100KHz |
| Ripple Rejection | RR | 41dB | 80dB | | 8V ≤ V ₁ ≤ 20V f=120Hz, T _J =25°C |
| Dropout Voltage | V _d | | 1.7V | | T _J =25°C |

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

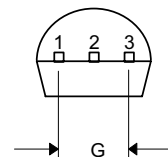
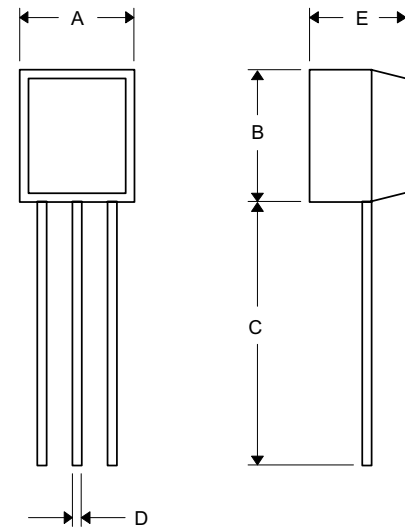
Typical Application:



MC78L05BP

Three-Terminal Low Current Positive Voltage Regulator

TO-92



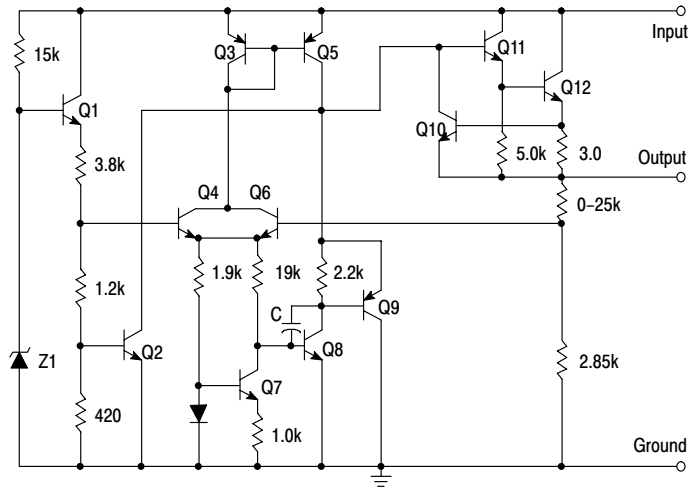
1. OUT
2. GND
3. IN

| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|------|------|------|
| | INCHES | | MM | | |
| 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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MC78L05BP

Figure 1. Representative Schematic Diagram





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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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