



Micro Commercial Components

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MC78L12F

Three-Terminal Low Current Positive Voltage Regulator

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

Maximum Ratings

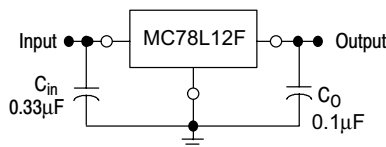
| Parameter | Symbol | Value | Unit |
|--------------------------------|-----------|------------|------|
| Input Voltage | V_1 | 35 | V |
| Operating Junction Temperature | T_{OPR} | -20---+120 | °C |
| Storage Temperature Range | T_{STG} | -55---+150 | °C |

Electrical Characteristics ($V_1=19V$, $I_o=500mA$, $0^\circ C < T_j < 125^\circ C$, $C_1=0.33\mu F$, $C_o=0.1\mu F$, unless otherwise specified)

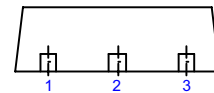
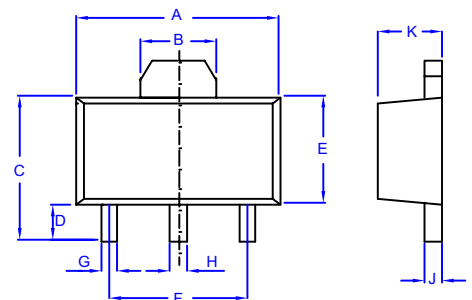
| Parameter | Sym | Min | Typ | Max | Test conditions |
|--------------------------|-----------------------|-------|--------------|----------------|--------------------------------------------------------------------------------------------|
| Output Voltage | V_o | 11.5V | 12V | 12.5V | $T_j=25^\circ C$ |
| | | 11.4V | | 12.6V | $14.5V \leq V_1 \leq 27V$, $I_o=1mA-40mA$ |
| | | 11.4V | | 12.6V | $14.5V \leq V_1 \leq V_{MAX}$, $I_o=1mA-70mA$ (Note) |
| Load Regulation | ΔV_o | | 25mV | 150mV | $I_o=1mA-100mA$, $T_j=25^\circ C$ |
| | | | 12mV | 75mV | $I_o=1mA-40mA$, $T_j=25^\circ C$ |
| Line regulation | ΔV_o | | 25mV 20mV | 300mV 250mV | $14.5V \leq V_1 \leq 27V$, $T_j=25^\circ C$ $16V \leq V_1 \leq 27V$, $T_j=25^\circ C$ |
| Quiescent Current | I_q ΔI_q | | 2.0mA | 6.0mA | $16V \leq V_1 \leq 27V$ |
| | | | | 1.5mA | |
| Quiescent Current Change | ΔI_q | | | 0.1mA | $1mA \leq I_o \leq 40mA$ |
| Output Noise Voltage | V_N | | 80uV | | $10Hz \leq f \leq 100KHz$ |
| Ripple Rejection | RR | | 37dB | 65dB | $15V \leq V_1 \leq 25V$ $f=120Hz$, $T_j=25^\circ C$ |
| 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:



SOT-89



1. OUT
2. GND
3. IN

| DIM | DIMENSIONS | | | | NOTES |
|-----|------------|-------|------|-------|-------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .173 | .181 | 4.39 | 4.60 | |
| B | .063 | .071 | 1.60 | 1.80 | |
| C | .154 | .165 | 3.91 | 4.19 | |
| D | .031 | .039 | 0.80 | 1.00 | |
| E | .092 | .100 | 2.34 | 2.54 | |
| F | .118 | ----- | 3.00 | ----- | TYP |
| G | .013 | .019 | 0.33 | 0.48 | |
| H | .015 | .021 | 0.38 | 0.53 | |
| J | .015 | .016 | 0.38 | 0.41 | |
| K | .055 | .063 | 1.40 | 1.60 | |



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Ordering Information

| | |
|------------------|----------------------|
| Device | Packing |
| (Part Number)-TP | Tape&Reel;1Kpcs/Reel |

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