# MC79M12BDTRKG-TP

## 0.5A Fixed Voltage Regulators

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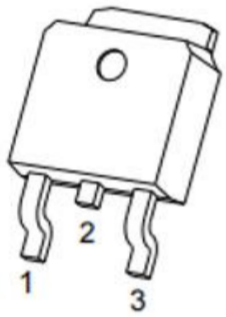
## Features

- 3-Terminal regulators
- Maximum Output current 0.5A
- Output voltage Vo: - 12V
- Compact package: TO-252-2L

## Applications

- HVAC Systems
- SMPS Post Regulation
- Test and Measurement Equipment
- Industrial Power Supplies

## PIN CONFIGURATION




1.GND

2.VIN

3.OUT

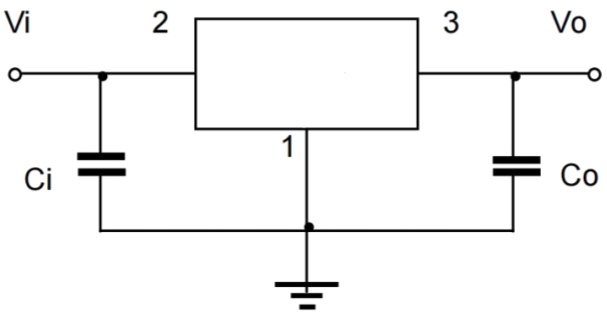
| Pin Number | Pin Name | Pin Function |
|---|---|---|
| 1 | GND | Ground |
| 2 | VIN | Input of Supply Voltage |
| 3 | VOUT | Output of the Regulator |

## Absolute Maximum Ratings

**over operating free-air temperature range (unless otherwise noted)**

| Symbol | Parameter | Rating | UNIT |
|---|---|---|---|
| VIN | Input voltage | -35 | **V** |
| $R_{\theta JA}$ | Thermal Resistance Junction-ambient to Air | 80 | ℃/**W** |
| PD | Continuous total dissipation ( Ta= 25 ℃ ) | 1.25 | **W** |
| $T_{OPR}$ | Operating Junction Temperature Range | -40～+125 | ℃ |
| $T_{stg}$ | Storage temperature range | -65～+150 | ℃ |

## TYPICAL APPLICATION



## Electrical Characteristics

( Vi=-14V,Io=500mA,Ci=2.2μF, Co=1μF, unless otherwise specified)

| AMETER | SYMBOL | TEST Conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| DC Output Voltage | VO | $T_j$=25℃ | -11.64 | -12 | -12.36 | V |
| | | 0-125℃<br>-14.5V≤Vi≤-27V,<br>Io=5mA-350mA | -11.4 | -12 | -12.6 | V |
| Load Regulation | △Vo | $T_j$=25℃ Io=5mA-0.5A | -- | -- | 250 | mV |
| | | $T_j$=25℃ Io=5mA-200mA | -- | -- | 120 | mV |
| Line regulation | △Vo | $T_j$=25℃<br>-14.5V≤Vi≤-30V , Io=200mA | -- | -- | 250 | mV |
| | | $T_j$=25℃<br>-16V≤Vi≤-22V , Io=200mA | -- | -- | 120 | mV |
| Quiescent Current | Iq | $T_j$=25℃ | -- | 1.5 | 5.0 | mA |
| Quiescent Current Change | △Iq | 0-125℃<br>-14.5V≤Vi≤-30V,Io=200mA | -- | -- | 1.0 | mA |
| | | 0-125℃<br>5mA≤IO≤350mA | -- | -- | 0.5 | mA |
| Output Voltage Drift | △Vo/△T | Io=5mA | -- | -0.8 | -- | mV/℃ |
| Output Noise Voltage | $V_N$ | $T_j$=25℃<br>10Hz≤f≤100KHz | -- | 200 | -- | μV/Vo |
| Ripple Rejection | RR | -15V≤Vi≤-25V<br>Io=350mA,f=120Hz | -- | 60 | -- | dB |
| Dropout Voltage | Vd | Io=350mA, $T_j$=25℃ | -- | 2.0 | -- | V |
| Peak Current | Ipk | $T_j$=25℃ | -- | 0.5 | -- | A |

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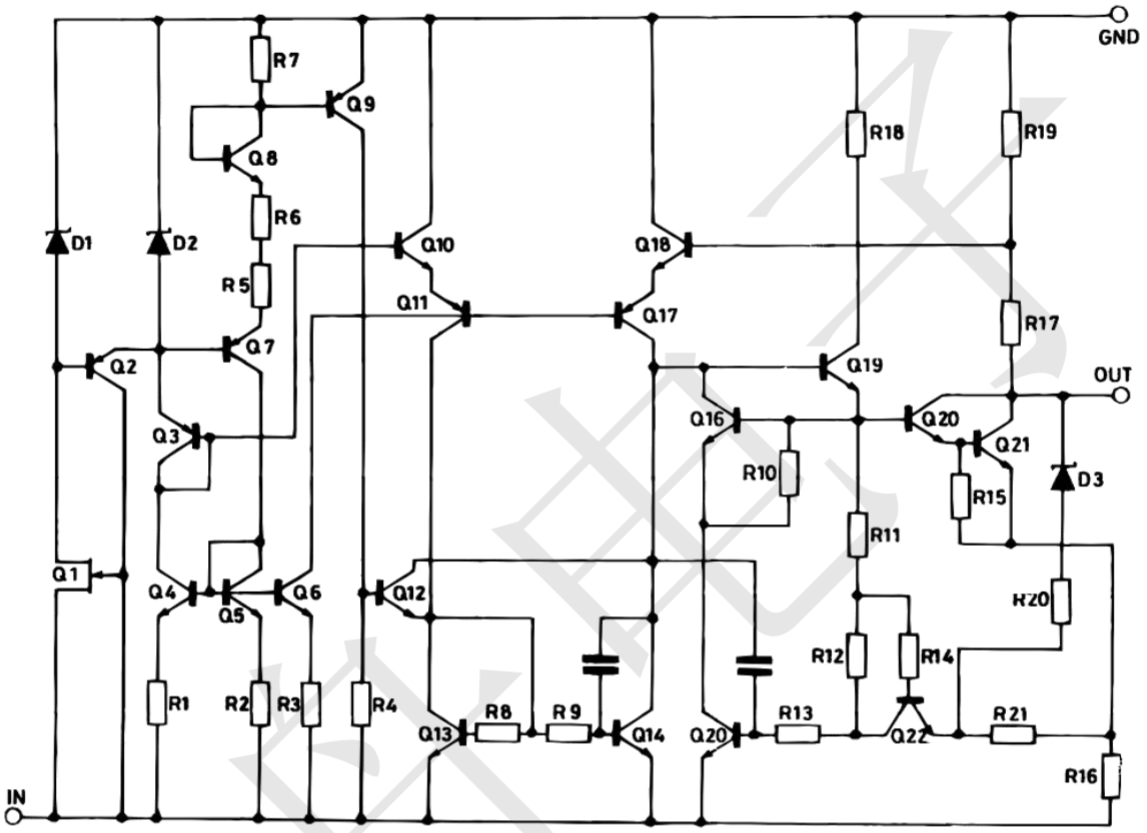
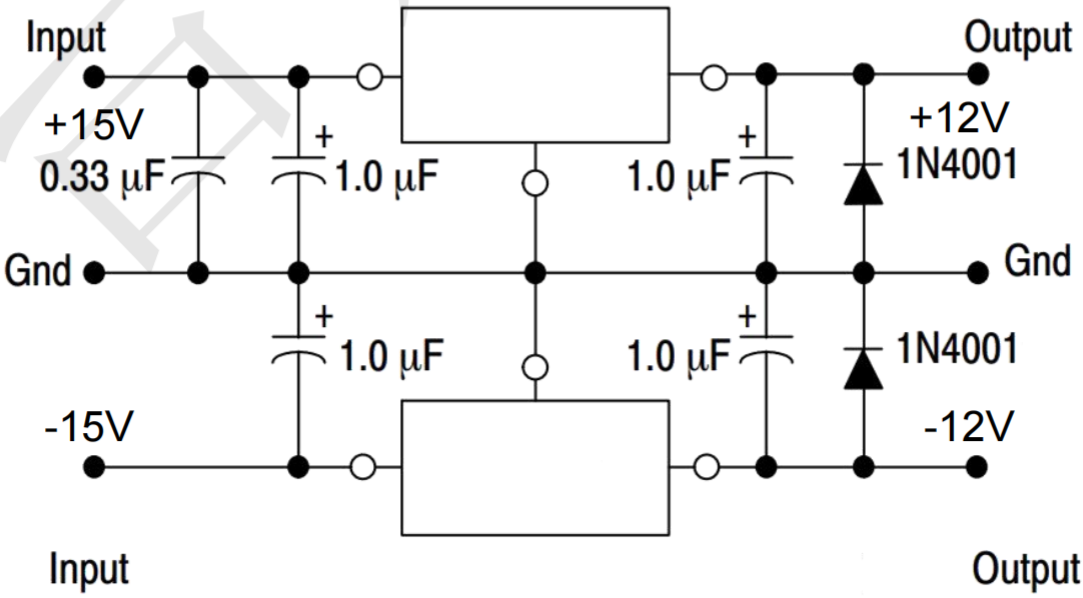
## Schematic diagram




## Typical Application Circuit



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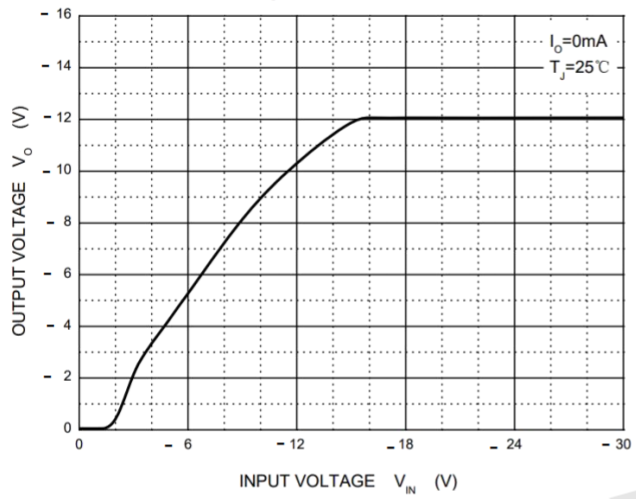
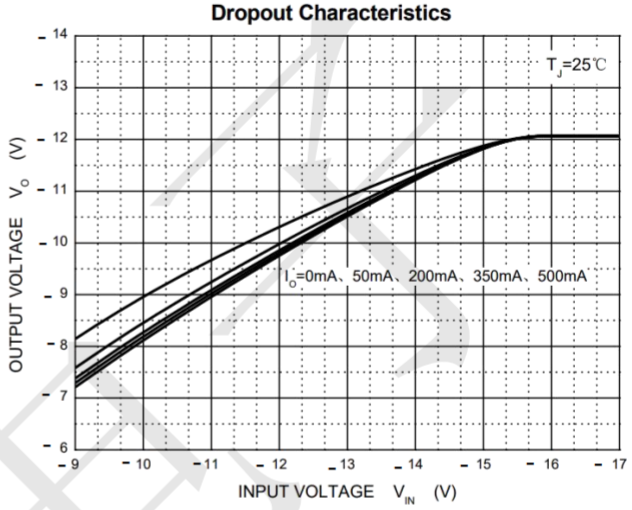
## Typical Operating Characteristics (25 °C, unless otherwise noted)

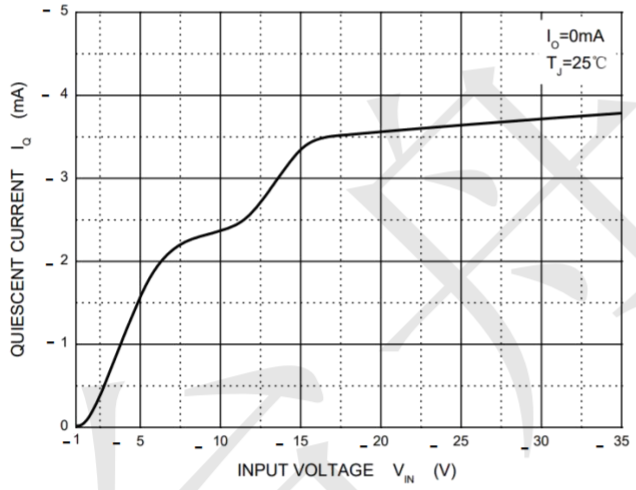
Output Characteristics



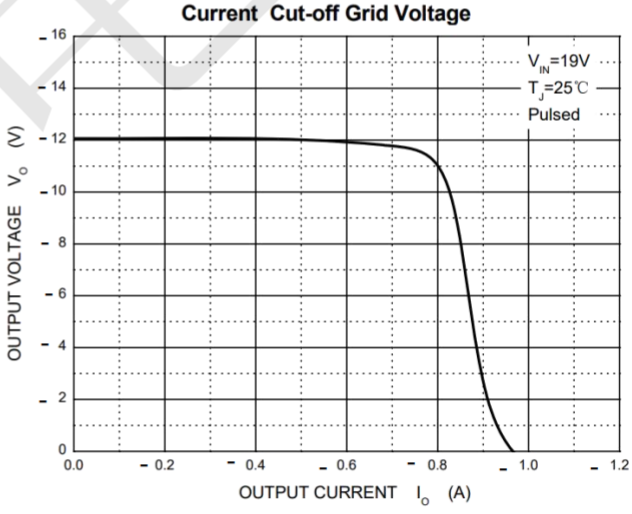

Dropout Characteristics



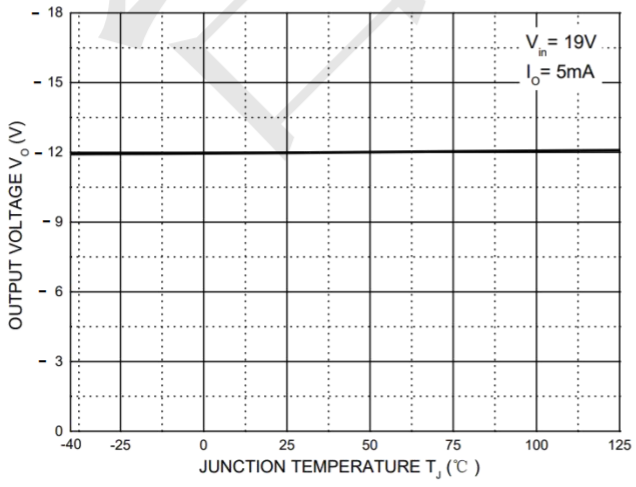

Quiescent Current vs Input Voltage



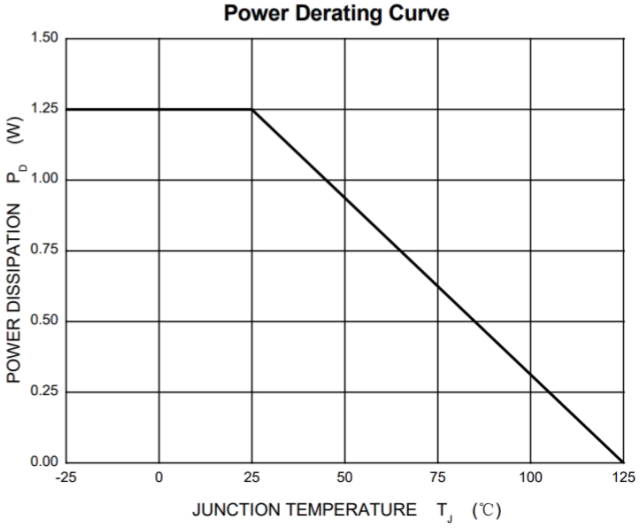

Current Cut-off Grid Voltage




Output Voltage vs Junction Temperature

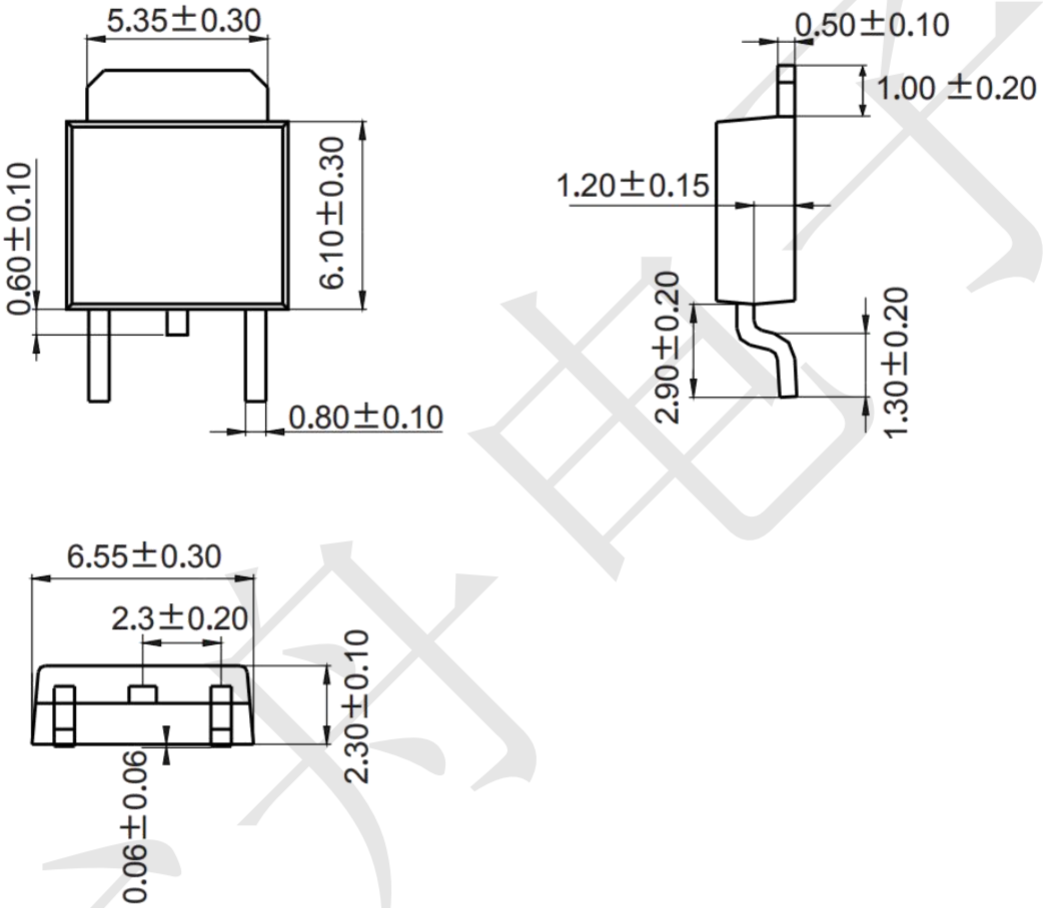



Power Derating Curve



## Package Outline Dimensions (unit: mm)

**TO-252-2L**




## Mounting Pad Layout (unit: mm)