

### GENERAL DESCRIPTION

The MP8801 is a low-noise, low-dropout linear regulator. It operates from 2.7V to 6.5V input voltage, and regulates the output voltage with 2% accuracy from 1.5V to 5V.

The MP8801 can supply up to 150mA of load current. The MP8801 features thermal overload protection. It is available in a 5-pin TSOT23-5 package.

### ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	$V_{IN}$	2.7 to 6.5	V
Output Voltage <sup>(1)</sup>	$V_{OUT}$	2.85	V
Operating Temp		-40 to +85	°C

**Note:**

1) 2.85V default output voltage adjustable from 1.5V to 5.0V using an external resistor divider.

### FEATURES

- Low 150mV Dropout at 150mA Output
- 2% Accurate Output Voltage
- Default Output Voltage Set to 2.85V, Adjustable from 1.5V to 5V using an External Resistor Divider
- Up to 6.5V Input Voltage
- High PSRR
  - 70dB at 1KHz
  - 30dB at 1MHz
- Better Than 0.001%/mA Load Regulation
- Stable With Low-ESR Output Capacitor
- Low 125µA Ground Current
- Internal Thermal Protection

### APPLICATIONS

- 802.11 PC Cards
- Mobile Handset PLL Power
- Audio Codec Power

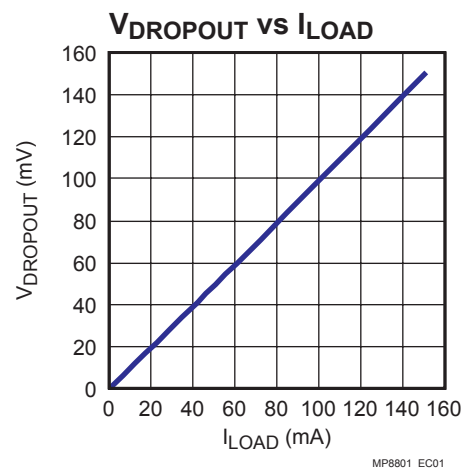
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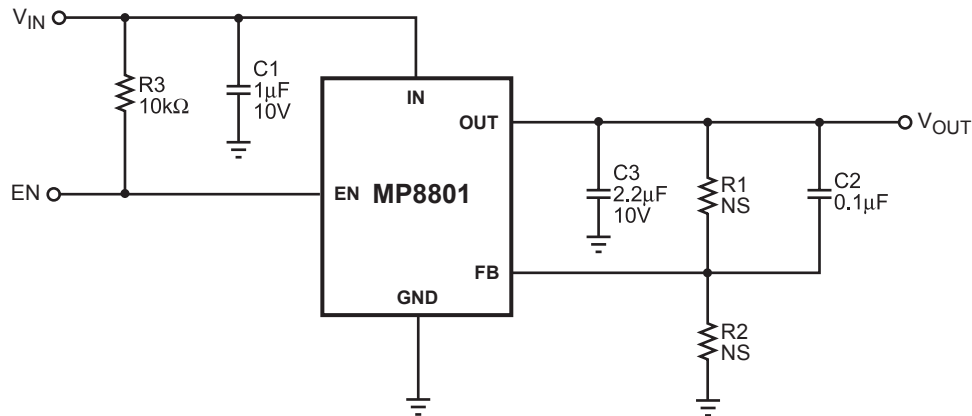
### EV8801DJ-00A EVALUATION BOARD



Dimensions (2.0"X x 2.0"Y x 0.4"Z)

Board Number	MPS IC Number
EV8801DJ-00A	MP8801DJ2.85



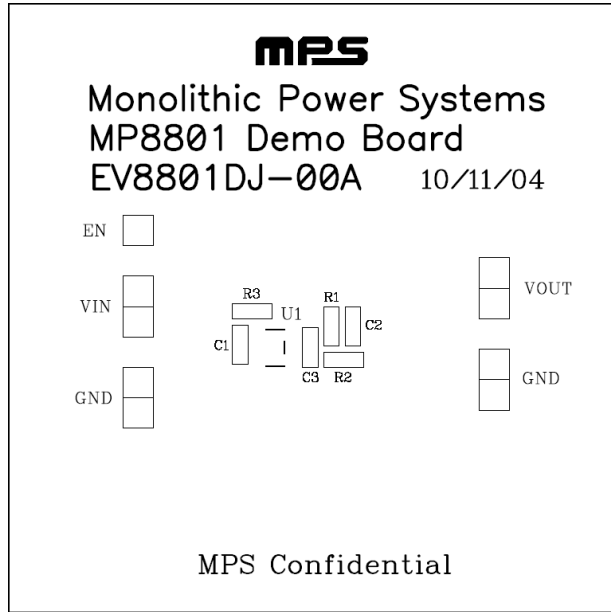
**EVALUATION BOARD SCHEMATIC**


EV8801DJ-00A\_S01

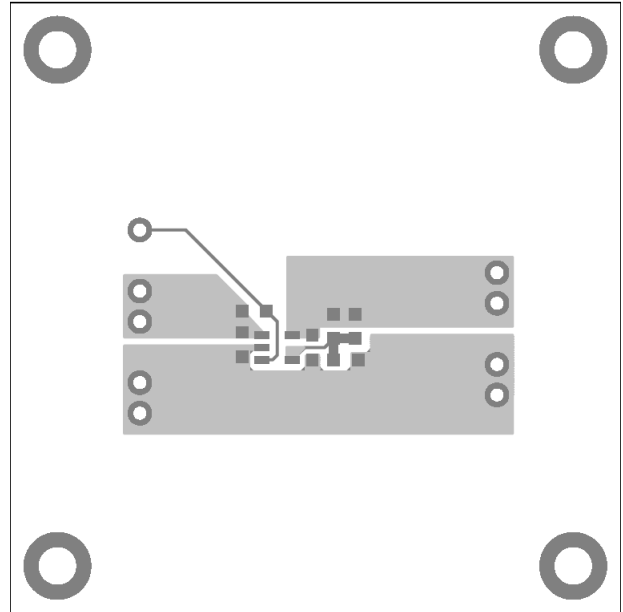
**EV8801DJ-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Manufacturer	Manufacturer P/N
1	C1	1μF	Ceramic Cap, 10V, X7R	AVX	0805ZC105KAT2A
1	C2	0.1μF	Ceramic Cap, 50V, X7R	AVX	08055C104KAT2A
1	C3	2.2μF	Ceramic Cap, 10V, X5R	AVX	0805ZD225KAT2A
1	R1		Do Not Stuff		
1	R2		Do Not Stuff		
1	R3	10kΩ	Film Res, 5%	Panasonic	ERJ-6GEYJ104V
1	U1		DC-DC Converter	MPS	MP8801DJ2.85

**PRINTED CIRCUIT BOARD LAYOUT**



**Figure 1—Top Silk Layer**



**Figure 2—Top Layer**

## QUICK START GUIDE

The output voltage of this board is set to 2.85V. The EN pin is connected to  $V_{IN}$  with a 10k $\Omega$  resistor for automatic startup. You can connect EN to GND to disable the MP8801.

Attach the positive and the negative ends of the load to the  $V_{OUT}$  and GND pins, respectively.

Attach an input voltage ( $2.7V \leq V_{IN} \leq 6.5V$ ) and input ground to the  $V_{IN}$  and GND pins, respectively.

The output voltage ( $V_{OUT}$ ) can be changed by adding a resistor divider (R1 and R2). A 10k $\Omega$  ( $\pm 1\%$ ) resistor should be used for the low-side resistor R2 of the voltage divider. The high side resistor R1 can be determined by the equation:

$$R1 = R2 \times \left( \frac{V_{OUT} - V_{FB}}{V_{FB}} \right)$$

Where  $V_{FB}$  is the OUT feedback threshold voltage equal to 1.222V.

The following table lists the R1 selected values for some typical output voltages:

$V_{OUT}$ (V)	R1 ( $\Omega$ )
1.25	232
1.5	2.26k
1.8	4.75k
2	6.34k
2.5	10.5k
2.8	13k
3	14.7k
3.3	16.9k
4	22.6k
5	30.9k

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