

DESCRIPTION

The EV20043DGT-00A evaluation board demonstrates the performance of MP20043, a dual-channel, low noise, low dropout and high PSRR linear regulator. It operates from 2.5V to 5.5V and features programmable output by setting the voltage of P1 and P2 to VIN, GND or floating. There are 9 different voltage settings in one chip.

Each output channel can supply up to 300mA of load current. The EN1 and EN2 pins control each output respectively. The EV20043DGT-00A features current limiting and over temperature protection, stability with ultra low ESR ceramic capacitors, and very fast transient response.

EV20043DGT-00A can also be used to evaluate the other version MP20043 with different programmable output voltage.

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	3.7 – 5.5	V
Output Voltage	V_{OUT1}	1.5	V
	V_{OUT2}	2.8	V
Operating Temperature		-40 to +85	°C

FEATURES

- Programmable Output Voltage
- 300mA Output Current (Per Channel)
- Dual Enable Pins Control Each Output
- 75dB PSRR at 1kHz
- $7\mu V_{RMS}$ Low Noise Output with No Noise Bypass Capacitor Required
- 60mV Dropout at 100mA Load for Each Channel
- Fast Transient Responses
- Current Limit and Thermal Protection

APPLICATIONS

- Cellular Phones
- Battery-powered Equipment
- Laptop, Notebook, and Palmtop Computers
- Hand-held Equipment
- Wireless LAN

MPS[®] and "The Future of Analog IC Technology" are Registered Trademarks of Monolithic Power Systems, Inc.

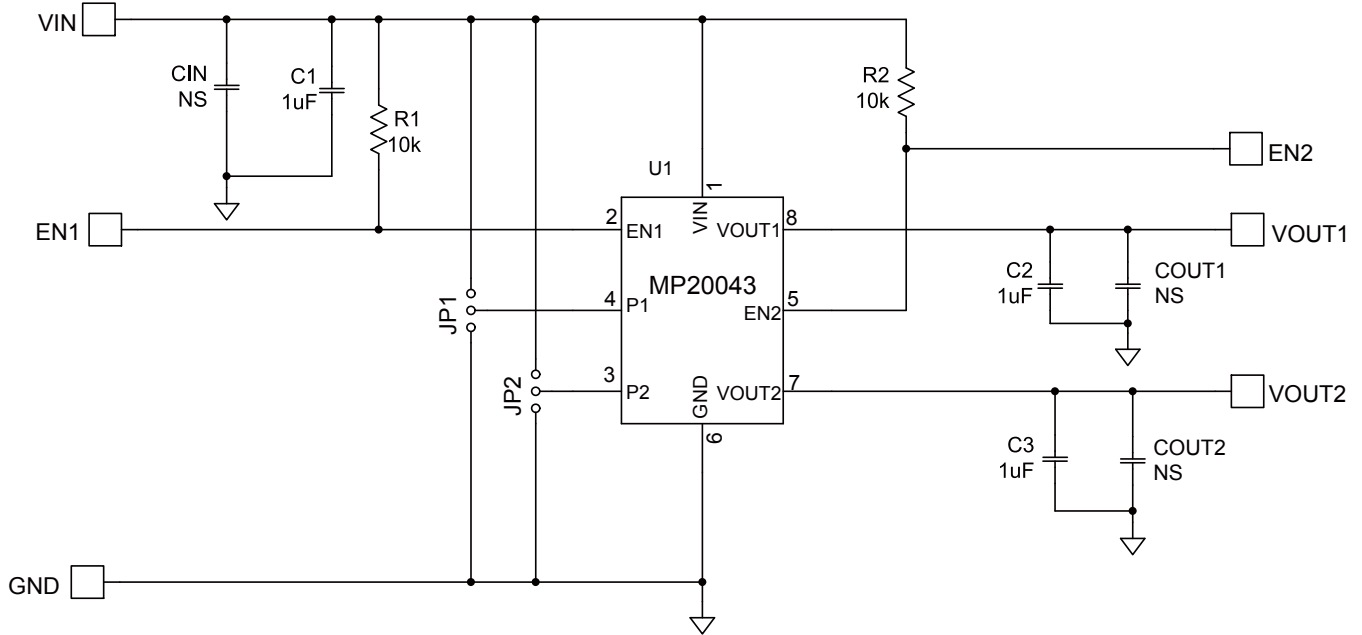
EV20043DGT-00A EVALUATION BOARD



(L x W x H) 2.5" x 2.5" x 0.4"
(6.35cm x 6.35cm x 1.1cm)

Board Number	MPS IC Number
EV20043DGT-00A	MP20043DGT-A

EVALUATION BOARD SCHEMATIC



EV20043DGT-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Part Number
3	C1, C2, C3	1uF	Ceramic Capacitor, X7R, 10V	0805	TDK	C2012X7R1A105K
3	CIN, COUT1, COUT2	NS				
2	R1, R2	10k	Film Res, 1%	0603	Yageo	RC0603FR-0710KL
2	JP1, JP2		3-Pin Connector Header, 0.100"		Any	
1	U1		LDO Regulator	TQFN8 (2mm*2mm)	MPS	MP20043DGT-A

PRINTED CIRCUIT BOARD LAYOUT

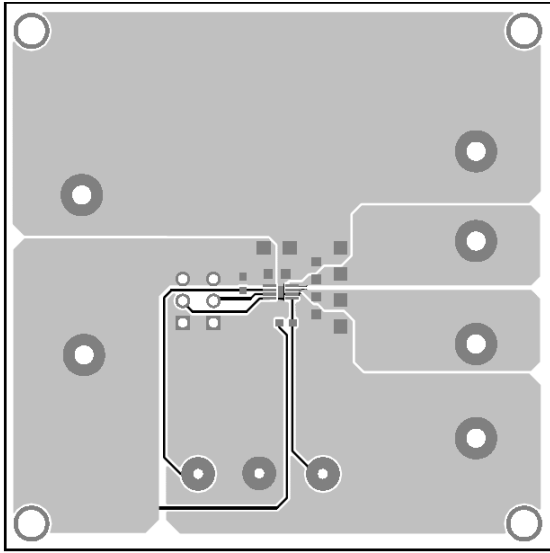


Figure 1—Top Layer

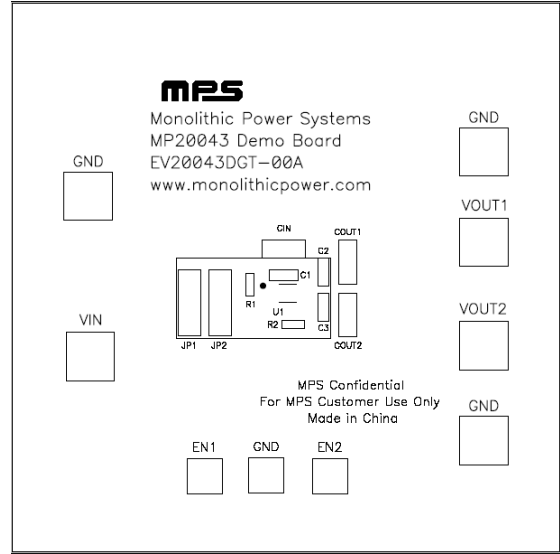


Figure 2—Top Silk Layer

QUICK START GUIDE

The output voltage of this board can be programmed by setting the voltage of P1 and P2 to VIN, GND or floating. There are 9 different voltage settings in one chip, which is as following table, and P1 and P2 are preset at “Low” states.

Table 1 Programmable Output Voltage Setting

P1 State	P2 State	V _{OUT1}	V _{OUT2}
L	L	1.5V	2.8V
L	H	1.8V	2.9V
L	Open	1.8V	2.8V
H	L	1.8V	2.7V
H	H	1.8V	2.6V
H	Open	2.7V	2.8V
Open	L	2.8V	2.8V
Open	H	2.9V	2.9V
Open	Open	2.8V	3.3V

1. The EN1 and EN2 pin are connected to VIN with a 10kΩ resistor for automatic startup. You can connect EN1 or EN2 to GND to disable each output of MP20043 respectively.
2. Attach the positive and negative ends of the load to the VOUT and GND pins, respectively.
3. Attach the input voltage ($2.5V \leq V_{IN} \leq 5.5V$) and input ground to the VIN and GND pins, respectively.

To evaluate the other version MP20043 with different programmed output voltage, carefully remove the IC (U1) and replace it with the corresponding chip. Please refer to the datasheet for the detailed information of the different programmable output voltage of MP20043.

NOTICE: The information in this document is subject to change without notice. Please contact MPS for current specifications. Users should warrant and guarantee that third party Intellectual Property rights are not infringed upon when integrating MPS products into any application. MPS will not assume any legal responsibility for any said applications.