



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

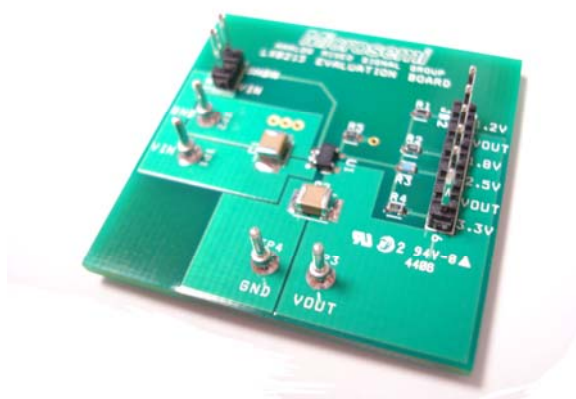
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



LX8213

HIGH SPEED LOW NOISE CMOS LDO REGULATOR

EVALUATION BOARD



INTRODUCTION TO PRODUCT

The LX8213 Evaluation Board is available from Microsemi for evaluating the functionality and performance of the LX8213 high speed, low noise CMOS based LDO regulator. The evaluation board allows the user to set either a 1.2V, 1.8V, 2.5V, or 3.3V output via an on board jumper.

KEY FEATURES

- Wide Operating Voltage Range: 2.5V to 6V
- 1.2V, 1.8V, 2.5V or 3.3V Output Voltage via On Board Setting
- 1uF Input and Output Low ESR Ceramic Capacitors
- Low Dropout Voltage: 170mV @ 3.3V 300mA
- Low Standby Current: Typical 0.1uA
- Low Quiescent Current: Typical 60uA
- Low Output Noise: 60uVrms
- Excellent Line and Load Regulation
- Short Current Limit of Typically 50mA
- Over Temperature Protection
- High Ripple Rejection: 65dB @ 1kHz, 45dB @ 10kHz

APPLICATIONS

- Personal Computers
- Datacom

PART SPECIFIC INFORMATION

IC PART NUMBER	DESCRIPTION
LX8213-00ISE	Adjustable Output CMOS LDO Regulator, Plastic SOT23 5 Pin.

Table 1 - PART INFORMATION

EVALUATION BOARD PART NUMBER	DESCRIPTION
LX8213-00ISE EVAL KIT	Evaluation PCB for the LX8213-00ISE device.

Table 2 - EVALUATION BOARD INFORMATION

The schematic shows the LX8213 voltage divider module. The input VIN is connected to the VIN pin of the LX8213 and the input of the voltage divider. The output VOUT is connected to the VOUT pin of the LX8213 and the output of the voltage divider. The voltage divider network consists of four resistors (R1, R2, R3, R4) connected in series, with test points TP1, TP2, TP3, and TP4. The LX8213 IC has pins for SHDN, GND, VIN, FB, and VOUT. The voltage divider network has pins for 1.2V, 1.8V, 2.5V, and 3.3V. The circuit is powered by a 5V supply connected to the SHDN pin and ground.

Figure 1 – LX8213 Evaluation Board Schematic

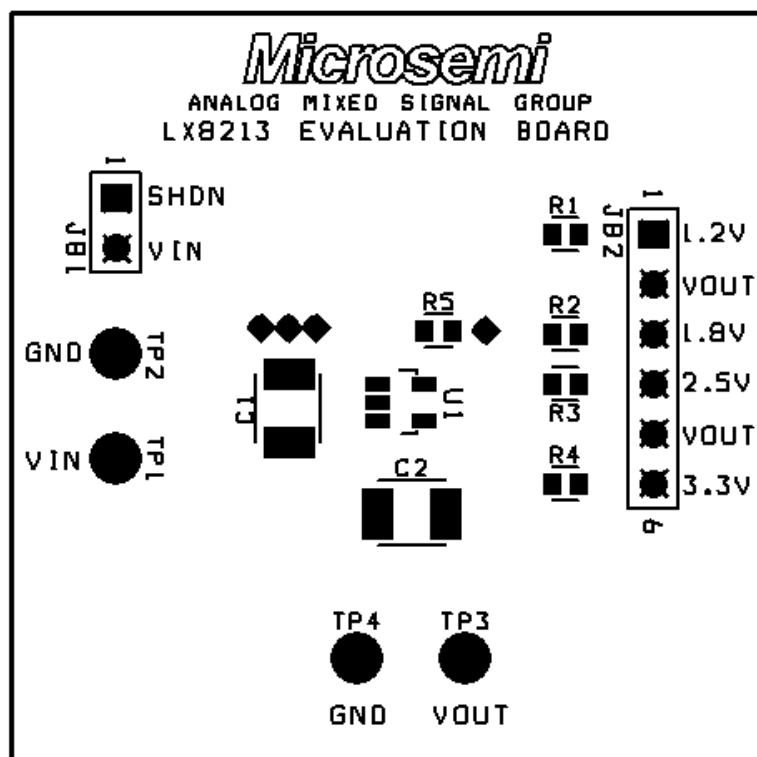


Figure 2 – Silkscreen & Solder Mask

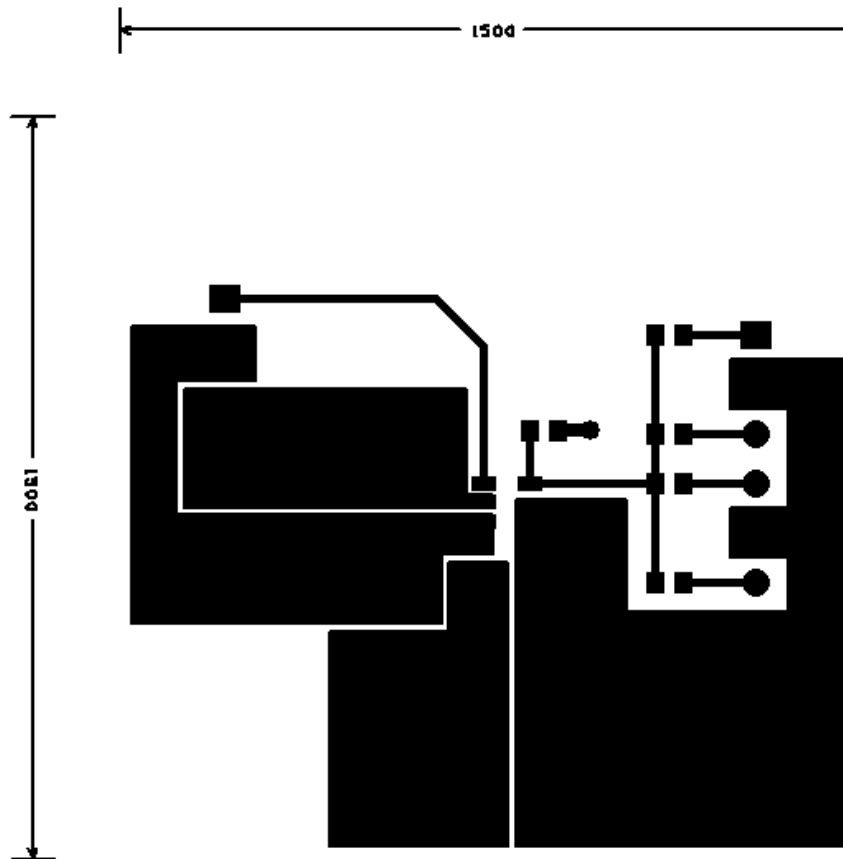


Figure 3 – Top Layer

IC BLOCK DIAGRAM

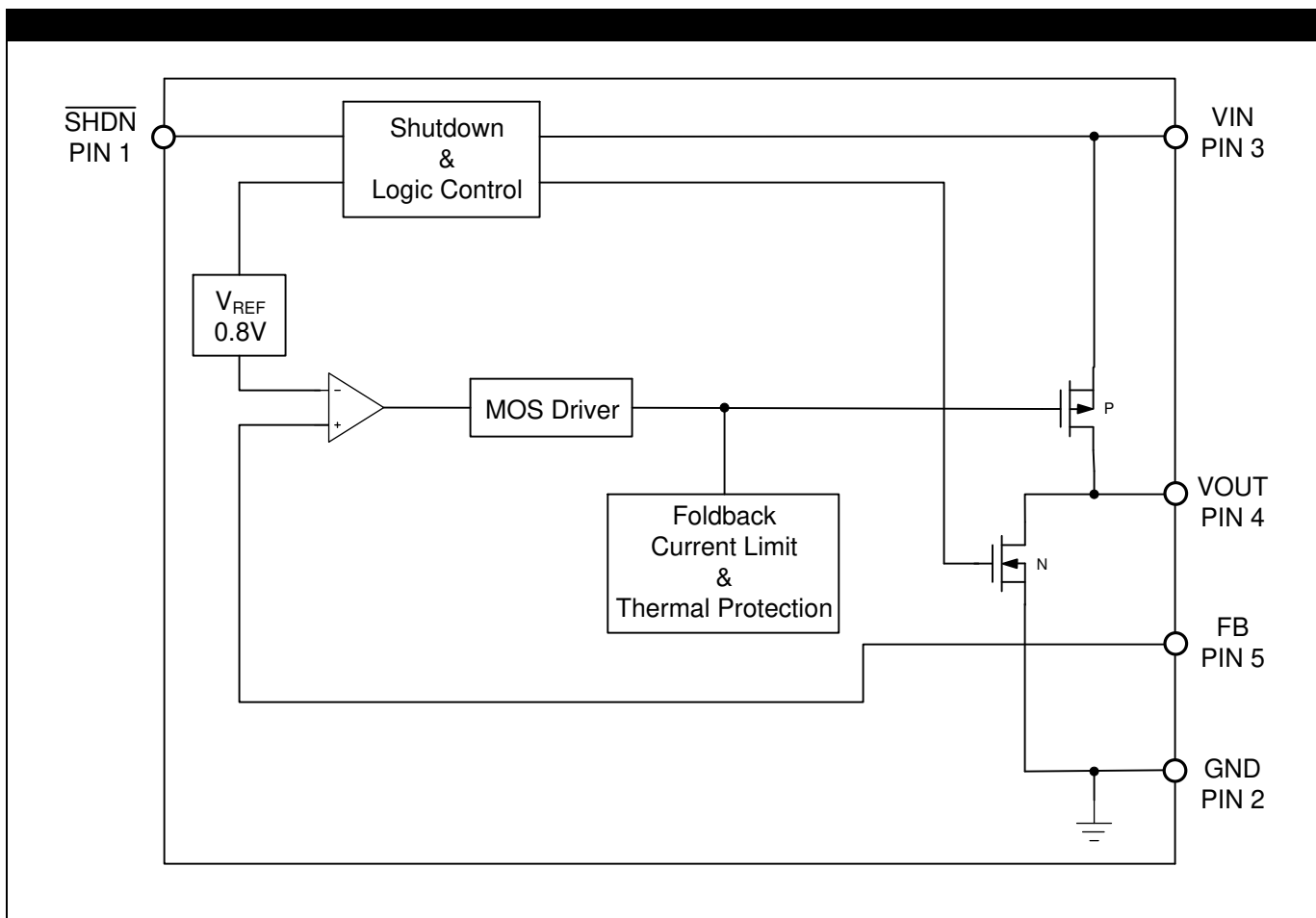


Figure 4 – LX8213 Simplified Block Diagram

LX8213 EVALUATION BOARD

Schematic: The LX8213 Evaluation Board schematic is shown in Figure 1.

PCB Layout: The LX8213 Evaluation Board layout is shown in Figure 2 and Figure 3.

Connections: The LX8213 Evaluation Board test point and jumper connections are described below.

Test Point	Pin Name	Function
TP1	VIN	LX8213 Device Input
TP2	OUTPUT	LX8213 Device Output
TP3	GND	Ground, Input Return Power
TP4	GND	Ground, Output Return Power

Table 3 – Test Point Assignment

Jumper Setting: Jumper JB1 allows SHDN to be connected to VIN to enable the LX8213. When SHDN pin is left floating, an internal pull-down will disable the device. An external source can also be used to toggle SHDN via pin 1 of JB1. Jumper JB2 sets the LX8213 output voltage to one of four levels: 1.2V, 1.8V, 2.5V, or 3.3V. Please refer to Table 5 for setting the desired output voltage.

Device Enabled	Jumper JB1 Setting
YES	Connect pins 1 and 2
NO	OPEN

Table 4 – LX8213 Device Enable Setting

Output Voltage	Jumper JB2 Setting
1.2V	Connect pins 1 and 2
1.8V	Connect pins 2 and 3
2.5V	Connect pins 4 and 5
3.3V	Connect pins 5 and 6

Table 5 – LX8213 Output Voltage Setting

Test Setup Considerations: For good load transient response and noise rejection, the 1uF input bypass capacitor may not be sufficient if additional parasitic inductance is introduced by the cables via the bench power supply to the LX8213 input. Please use additional input bypassing to help alleviate the parasitic inductance. Recommended capacitance value depends on the setup; however, a 10uF electrolytic should suffice to account for typical power supply cable connection parasitic. In real application the extra input bypassing is not needed.

LX8213 EVALUATION BOARD BUILD OF MATERIALS

MISCELLANEOUS COMPONENTS

Line Item	Part Description	Manufacturer & Part #	Case	Reference Designators	Qty
1	Microsemi IC – Low Dropout Linear Regulator	Microsemi, LX8213-00ISE	SOT23-5	U1	1
2	Header, 2 Positions, Vertical Mount, 0.1 Center	3M, 929647-02-36-I	Through Hole	JB1	1
3	Header, 6 Positions, Vertical Mount, 0.1 Center	3M, 929647-02-36-I	Through Hole	JB2	1
4	Test Point, Miniature Surface Mount	Keystone, 5015	Through Hole	TP1, TP2, TP3	3

CAPACITORS

Line Item	Part Description	Part Description	Case	Reference Designators	Qty
5	Ceramic Capacitor, 1 μ F, 6.3V, \pm 15%, X5R	Panasonic, ECJ-1VB0J105K	0603	C1, C2	2

RESISTORS

Line Item	Part Description	Part Description	Case	Reference Designators	Qty
6	Resistor, 4.02K, 1%, 1/16W	Panasonic, ERJ-3EKF4021V	0603	R1	1
7	Resistor, 10k, 1%, 1/16W	Panasonic, ERJ-3EKF1002V	0603	R2	1
8	Resistor, 16.9k, 1%, 1/16W	Panasonic, ERJ-3EKF1692V	0603	R3	1
9	Resistor, 24.9k, 1%, 1/16W	Panasonic, ERJ-3EKF2492V	0603	R4	1
10	Resistor, 8.06k, 1%, 1/16W	Panasonic, ERJ-3EKF8061V	0603	R5	1