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!

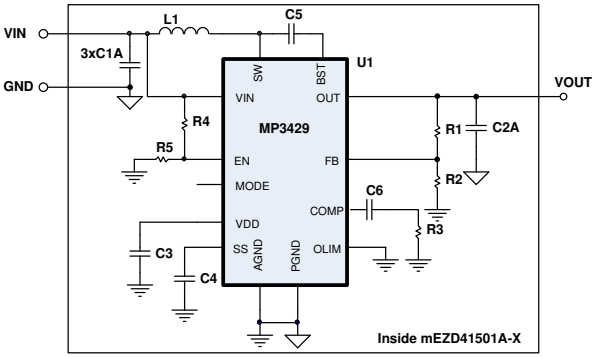
Contact us

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

mEZD41501A-X

2.7V - 13V Input, 1A, Step-Up Power Supply

mEZ Product Options:
1. ***Ready-to-Use products***
2. ***Do-It-Yourself. Manufacture assistance is provided***



Block Diagram

FEATURES

- Up to 13V Input Voltage
- 5V, 12V, 15V Output Options
- 1A Continuous Output Current
- Open Design Files and BOM
- 600kHz Fixed Frequency
- High Efficiency
- Over-Temperature Protection

ORDERING INFORMATION

Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)
MEZD41501A-A	2.7 - 4.2	5	1
MEZD41501A-B	2.7 - 10	12	1
MEZD41501A-C	2.7 - 13	15	1

mEZD4150xA-x FAMILY PRODUCTS

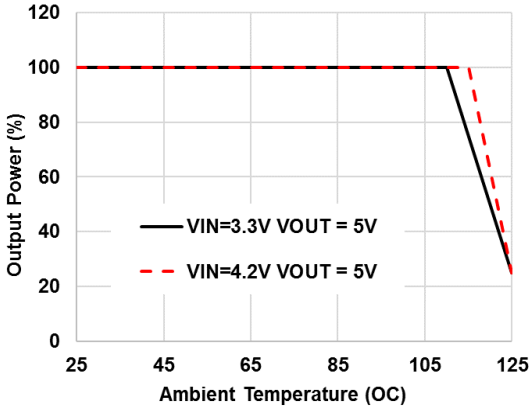
Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)
mEZD41501A-X	2.7 - 13	5, 12, 15	1
mEZD41502A-X	2.7 - 13	5, 12, 15	2
mEZD41503A-X	2.7 - 13	5, 12, 15	3

ELECTRICAL CHARACTERISTICS

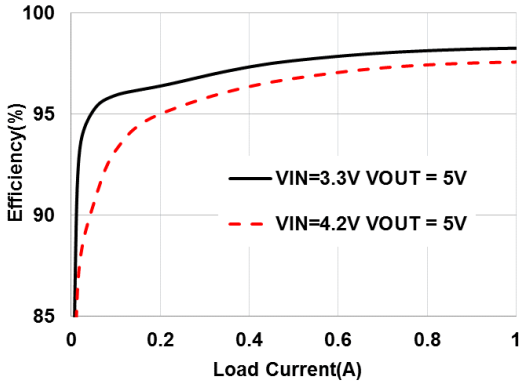
Input Voltage Range	mEZD41501A-A	2.7V to 4.2V
	mEZD41501A-B	2.7V to 10V
	mEZD41501A-C	2.7V to 13V
Output Voltage Set Accuracy		±2.2%
Output Voltage Ripple	V_{IN} = 3.3V, V_{OUT} = 5V, I_{OUT} = 1A	17mV (Typ.)
	V_{IN} = 6.6V, V_{OUT} = 12V, I_{OUT} = 1A	50mV (Typ.)
	V_{IN} = 6.6V, V_{OUT} = 15V, I_{OUT} = 1A	60mV (Typ.)
Line Regulation	V_{IN} from MIN to MAX, I_{OUT} = 1A	±0.2%
Load Regulation	I_{OUT} from MIN to MAX, V_{IN} = 6.6V	±0.5%
Efficiency	V_{IN} = 3.3V, V_{OUT} = 5V, I_{OUT} = 1A	97.5%
	V_{IN} = 6.6V, V_{OUT} = 12V, I_{OUT} = 1A	96.7%
	V_{IN} = 6.6V, V_{OUT} = 15V, I_{OUT} = 1A	96%
Switching Frequency	Typical switching frequency	600kHz
Short-Circuit Protection	No output short allowed	-
Operating Temperature Range		0 to 85°C
Over-Temperature Protection	OTP	150°C
Calculated MTBF	MIL-HDBK-217F	4185x10^3 hrs

TYPICAL PERFORMANCE CURVES

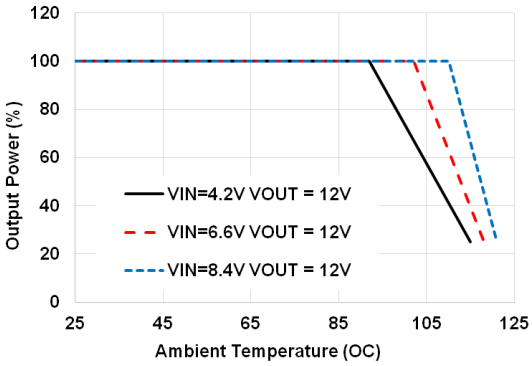
Power Derating
V_{IN} = 3.3V and 4.2V, V_{OUT} = 5V



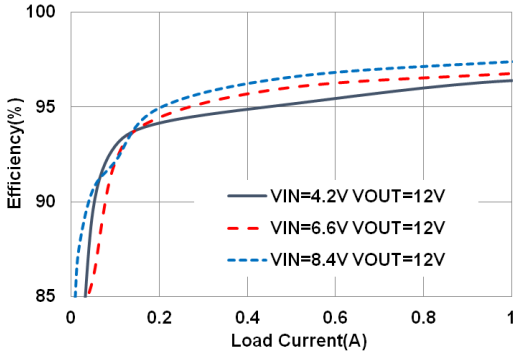
Efficiency vs. Load Current
V_{IN} = 3.3V and 4.2V, V_{OUT} = 5V



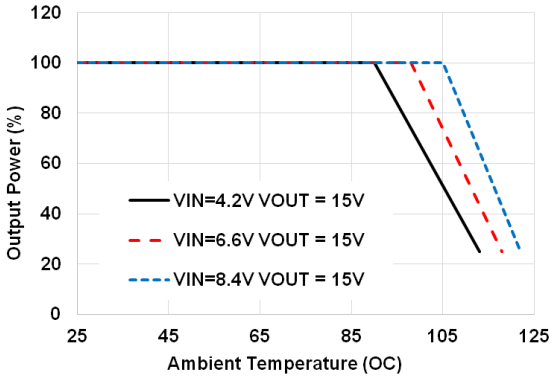
Power Derating
V_{IN} = 4.2V, 6.6V, and 8.4V, V_{OUT} = 12V



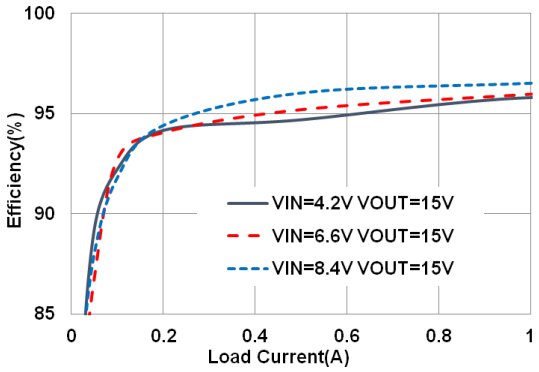
Efficiency vs. Load Current
V_{IN} = 4.2V, 6.6V, and 8.4V, V_{OUT} = 12V



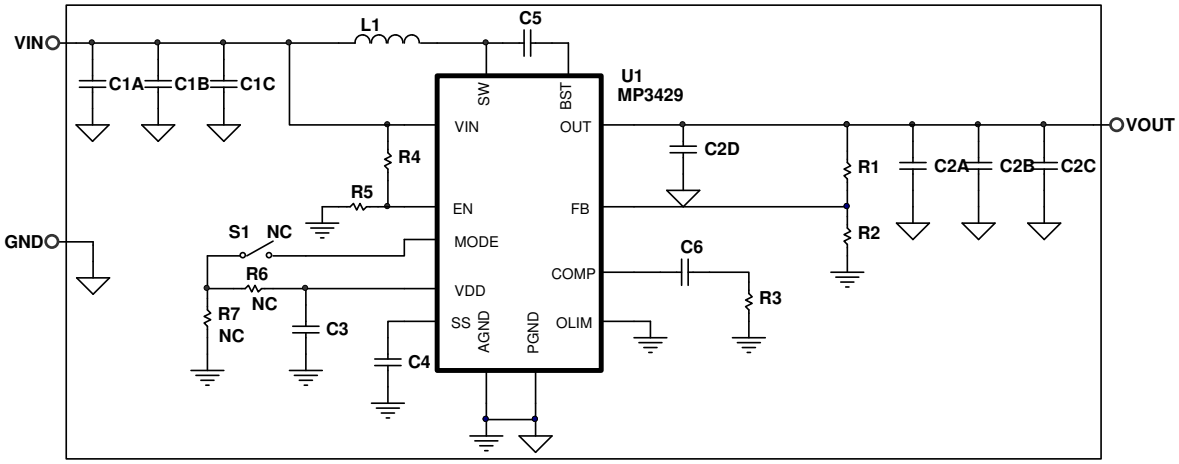
Power Derating
V_{IN} = 4.2V, 6.6V and 8.4V, V_{OUT} = 15V



Efficiency vs. Load Current
V_{IN} = 4.2V, 6.6V and 8.4V, V_{OUT} = 15V



DO-IT-YOURSELF SCHEMATIC



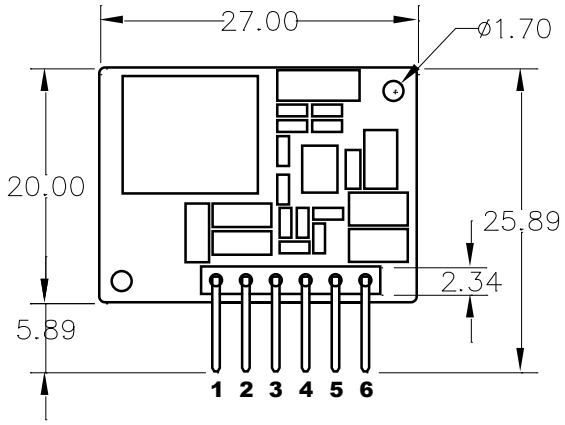
BILL OF MATERIALS

Item	Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	3	C1A, C1B, C1C	22µF	Ceramic Cap., 25V, X7R	1206	Murata	GRM31ER71E226KE15L
2	3	C2A, C2B, C2C	22µF	Ceramic Cap., 25V, X7R	1210	Murata	GRM32ER71E226KE15L
3	2	C2D, C5	100nF	Ceramic Cap., 25V, X7R	0603	Murata	GRM188R71E104KA01D
6	1	C3	4.7µF	Ceramic Cap., 6.3V, X5R	0603	Murata	GRM188R60J475KE19D
5	1	C4	22nF	Ceramic Cap., 25V, X7R	0603	Murata	GRM188R71E223JA01D
7	1	C6	8.2nF(A) 6.8nF(B,C)	Ceramic Cap., 50V, X7R	0603	Murata	GRM188R71H822KA01D GRM188R71H682KA01D
8	1	R1	750kΩ	Film Res, 1%	0603	YAGEO	RC0603FR-07750KL
9	1	R2	187kΩ(A) 68kΩ(B) 53.6kΩ(C)	Film Res, 1%	0603	YAGEO	RC0603FR-07187KL RC0603FR-0768KL RC0603FR-0753K6L
10	1	R3	3kΩ(A) 10kΩ(B,C)	Film Res, 1%	0603	YAGEO	RC0603FR-073KL RC0603FR-0710KL
11	1	R4	30kΩ	Film Res, 1%	0603	YAGEO	RC0603FR-0730KL
12	1	R5	34.8kΩ	Film Res, 1%	0603	YAGEO	RC0603FR-0734K8L
13	0	R6, R7	NC				
14	1	L1*	1.5µH	Irms = 19A, RDC = 3.3mΩ	11.5x10mm	Sumida	104CDMCCDS-1R5MC-ND
15	0	S1	NC				
16	1	U1	MP3429	Boost Converter	QFN 3x4mm	MPS	MP3429GL
17	1	VIN,VOUT,GND	Connector	6-Pin Connector	2.54mm	Wurth	

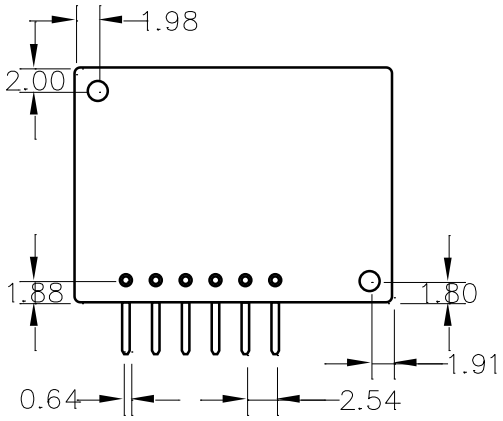
NOTE: A, B, C denote this value is specifically for mEZD41501A-A, mEZD41501A-B, mEZD41501A-C respectively.

* Or equivalent

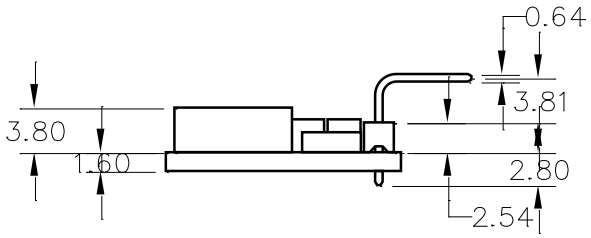
PRODUCT PACKAGE AND DIMENSIONS



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Pin	Designation	Function
1, 2	VIN	Input Voltage
3, 4	GND	Power Ground
5, 6	VOUT	Output Voltage

NOTE:
Contact factory for different sizes of the boards (Quantity >2k).

For more information, Gerber files, and PCB layout, please contact mEZsupport@monolithicpower.com