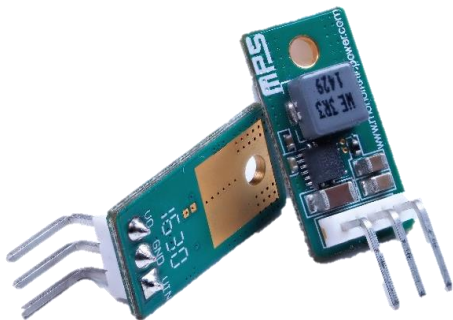




**THE DATASHEET OF  
MP3393EF-LF-Z**





#### mEZ Product Options:

1. Ready-to-Use products
  2. Do-It-Yourself.
- Manufacture assistance is provided

#### FEATURES

- 4.5V to 36V Wide Operating Input
- 2A Load Current
- Hiccup Short-Circuit Protection
- Over-Current Protection
- Over-Temperature Protection
- Open Design Files and BOM
- Over-/Under-Voltage Protection

#### ORDERING INFORMATION

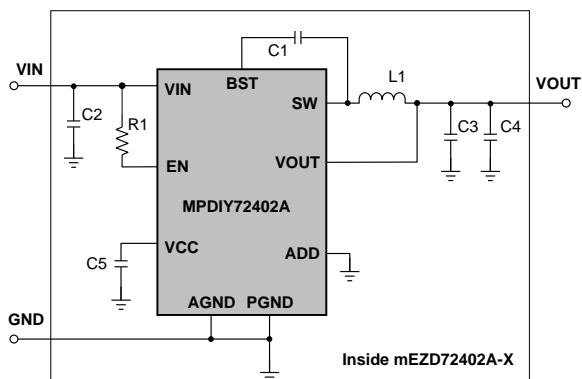
Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)
MEZD72402A-X	A - F: 4.5 - 36	1, 1.2, 1.5, 1.8, 2.5, 3.3, 5	2
	G: 6.5 - 36		
<b>Output Voltage Options</b>			
A = 1.0V	B = 1.2V	C = 1.5V	D = 1.8V
E = 2.5V	F = 3.3V	G = 5.0V	

#### mEZD724xx FAMILY PRODUCTS

Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)
mEZD72401A-X	4.5 - 36	1, 1.2, 1.5, 1.8, 2.5, 3.3, 5	1
mEZD72402A-X	4.5 - 36	1, 1.2, 1.5, 1.8, 2.5, 3.3, 5	2

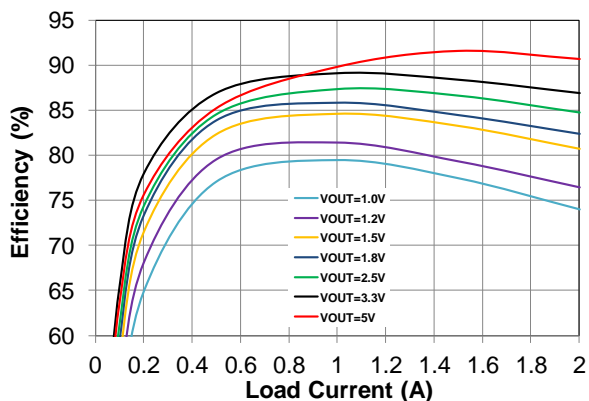
#### ELECTRICAL CHARACTERISTICS

Input Voltage Range	$V_{IN\_MIN}$ higher than $V_{OUT}$ by 1V	4.5 or 6.5 to 36V
Output Voltage Set Accuracy		$\pm 2.5\%$ (Typ.)
Output Voltage Ripple	$V_{IN} = 24V$ , $V_{OUT} = 3.3V$ , Full Load	26.4mV
Line Regulation	$V_{IN}$ from MIN to MAX, $V_{OUT} = 3.3V$	$\pm 1\%$ (Typ.)
Load Regulation	$I_{OUT}$ from MIN to MAX, $V_{OUT} = 3.3V$	$\pm 1\%$ (Typ.)
Switching Frequency	Typical Switching Frequency	400kHz
Short-Circuit Protection	Short Output to Ground	Hiccup Mode
Operating Temperature Range		-40 to 85°C
Over-Temperature Protection	OTP	150°C
Rise Time	$V_{OUT}$ from 0% to 90%	0.75ms (Typ.)
Calculated MTBF	MIL-HDBK-217F	$4185 \times 10^3$ hrs



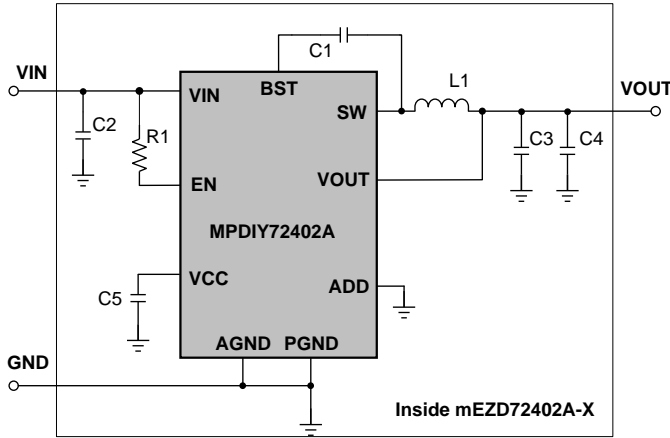
Block Diagram

Efficiency vs. Load Current  
 $V_{IN} = 24V$ ,  $V_{OUT} = 1V - 5V$

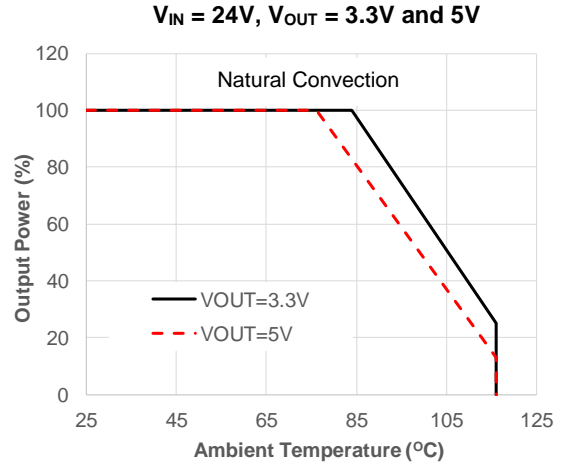


NOTE: All electrical characteristics are tested under 25°C ambient temperature,  $V_{IN} = 24V$  unless otherwise noted.

#### DO-IT-YOURSELF SCHEMATIC



#### POWER DERATING

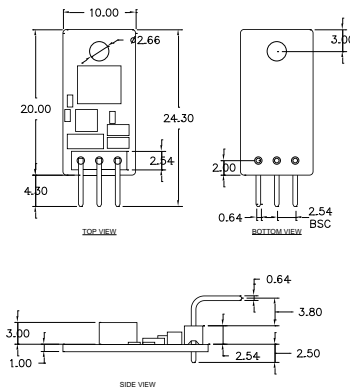


#### BILL OF MATERIALS

Item	Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	1	C1	0.22 $\mu$ F	Ceramic Cap., 16V, X5R	0402	WE	885012105017
2	1	C2	4.7 $\mu$ F	Ceramic Cap., 50V, X7R	1206	WE	885012208094
3	2	C3, C4	47 $\mu$ F	Ceramic Cap., 10V, X5R	0805	WE	885012107011
4	1	C5	1 $\mu$ F	Ceramic Cap., 10V, X5R	0402	WE	885012105012
5	1	L1*	5.6 $\mu$ H	Idc 3.3A, DCR 63m $\Omega$	5.5x5.2mm	WE	74437336056
6	1	R1	499k $\Omega$	Film Res., 5%	0402	Yageo	RC0402JR-07499KL
7	1	P1	3-Pin	3-Pin Male Connector, Right Angle	Bulk	TE-Connectivity	571-3-644457-3
8	1	U1	MPDIY72402A	Synchronous Step-Down Converter	QFN-16	MPS	MPDIY72402A

\* Or equivalent

#### PRODUCT PACKAGE AND DIMENSIONS



Pin	Designation	Function
1	VIN	Input Voltage
2	GND	Power Ground
3	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](mailto:mEZsupport@monolithicpower.com)

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View MP3393EF-LF-Z on WIN SOURCE](#)
- [Monolithic Power Systems Inc. Information](#)

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- ✓ Shortage Management
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- ✓ Excess Inventory Management