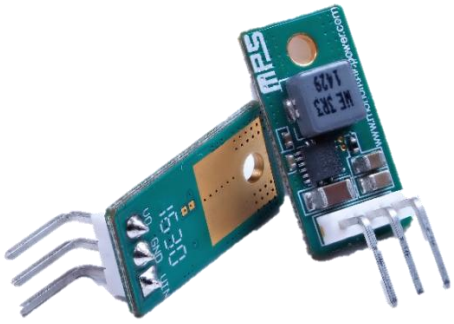
mEZD72402A Series

4.5V - 36V Input, 2A, DC/DC Power Supply

END OF LIFE, REFER TO MPM3530



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-/Under-Voltage Protection
- Over-Current Protection
- Over-Temperature Protection
- Open Design Files and BOM

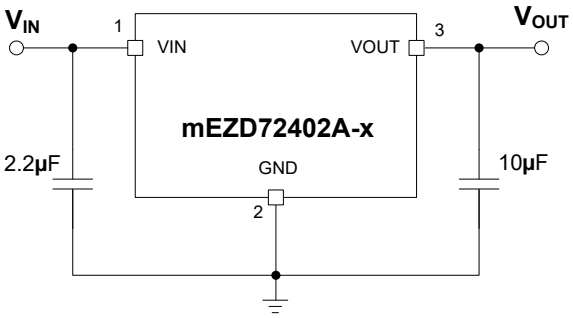
ORDERING INFORMATION

Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)
MEZD72402A-**X**	A - F: 4.5 - 36 G: 6.5 - 36	1, 1.2, 1.5, 1.8, 2.5, 3.3, 5	2

Output Voltage Options			
A = 1.0V	B = 1.2V	C = 1.5V G = 5.0V	D = 1.8V
E = 2.5V	F = 3.3V		

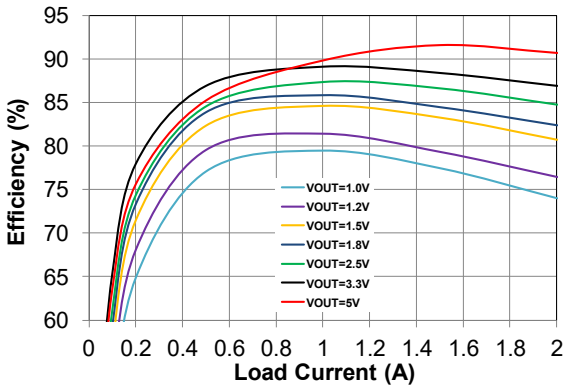
mEZD724xx FAMILY PRODUCTS

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, 12	1
mEZD72402A-X	4.5 - 36	1,1.2,1.5,1.8, 2.5,3.3,5	2



Typical Application Circuit

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



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		±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	±1% (Typ.)
Load Regulation	I_{OUT} from MIN to MAX, V_{OUT}=3.3V	±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	4185x10^3hrs

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

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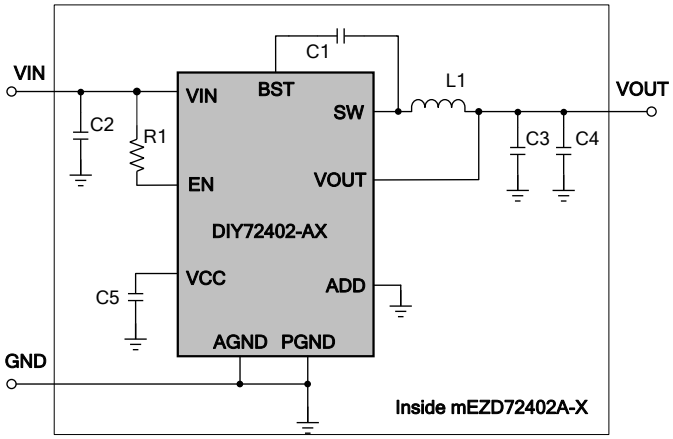
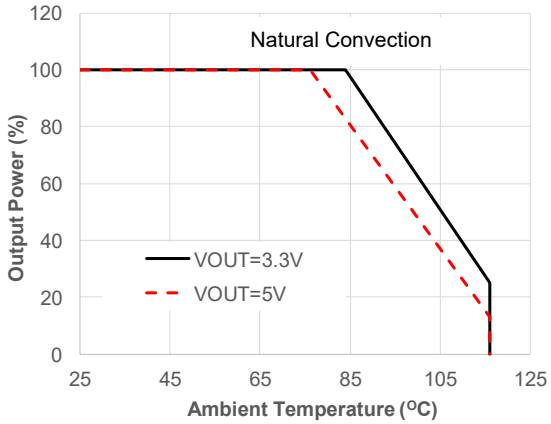
DO-IT-YOURSELF SCHEMATIC



POWER DERATING

V_{IN}=24V, V_{OUT}=3.3Vand 5V

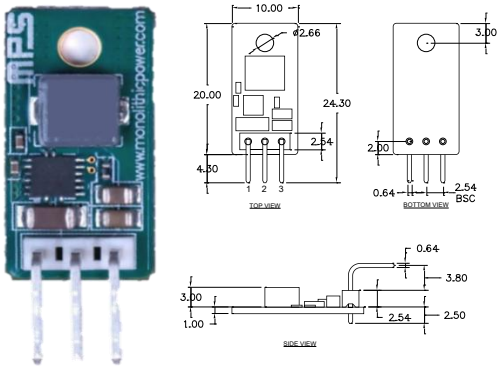


BILL OF MATERIALS

Item	Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	1	C1	0.22µF	Ceramic Cap., 16V, X5R	0402	muRata	GRM155R61C224KA12D
2	1	C2	4.7µF	Ceramic Cap., 50V, X7R	1206	muRata	GRM31CR71H475KA12L
3	2	C3, C4	22µF	Ceramic Cap., 10V, X7T/X5R	0805	muRata	GRM21BD71A226ME44L/ GRM21BR61A226ME51L
4	1	C5	1µF	Ceramic Cap., 10V, X5R	0402	muRata	GRM155R61A105KE01D
5	1	L1*	5.6µH	Idc 2.6A, DCR 65.7m Ohm	5.5x5x3mm	Panasonics	ETQP3M6R8KVP
6	1	R1	499kΩ	Film Res., 5%	0402	Yageo	RC0402JR-07499KL
7	1	P1	3-Pin	3-Pin Male Connector, Right Angle	Bulk	MYIC	MPS010SRRA-3
8	1	U1		Synchronous Step-Down Converter	QFN-16	MPS	DIY72402-AX**

* Or equivalent. ** -X Output voltage options (A: 1.0V, B: 1.2V, C: 1.5V, D: 1.8V, E: 2.5V, F: 3.3V, G: 5.0V)

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

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