



**mEZ Product Options:**

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

**FEATURES**

- 7V to 36V Wide Operating Input
- 2.5A Load Current
- 5V Output Voltage
- Open Design Files and BOM
- Over-Current Protection
- Over-Temperature Protection
- Line Drop Compensation
- DCP for BC1.2, Divider Mode, and 1.2V/1.2V Mode

**ORDERING INFORMATION**

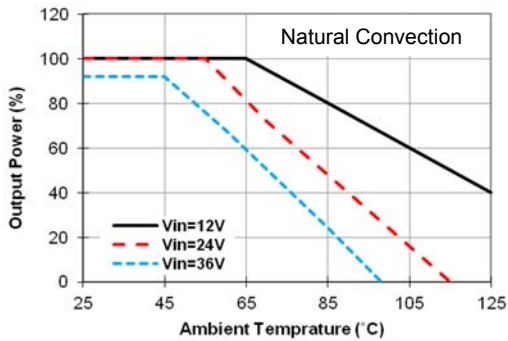
Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (A)	Efficiency
MEZS91202A	7 - 36	5	2.5	Up to 95%

**ELECTRICAL CHARACTERISTICS**

Input Voltage Range	$V_{IN}$ Continuous	7V to 36V
Output Voltage Set Accuracy		±4% (Typ.)
Output Voltage Ripple	$V_{IN} = 12V$ , Full Load	13mV
Line Regulation	$V_{IN} = 24V$	±0.5% (Typ.)
Line Drop Compensation	Full Load	93%
Efficiency	$V_{IN} = 12V$ , Full Load	93%
Switching Frequency	Typical Switching Frequency	350kHz
Short-Circuit Protection	Short Output to Ground	Hiccup Mode
Operating Temperature Range		-40 to 85°C
Over-Temperature Protection	OTP	165°C
Rise Time	From 10% $V_{OUT}$ to 90% $V_{OUT}$	1.6ms (Typ.)
Calculated MTBF	MIL-HDBK-217F	4185x10 <sup>3</sup> hrs

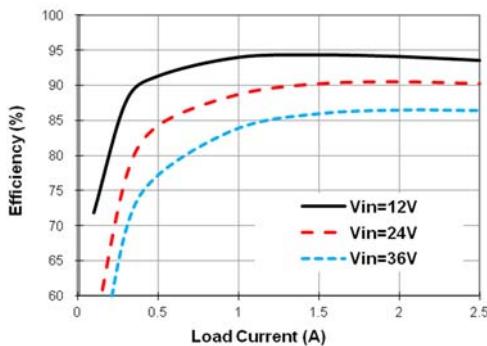
**Power Derating**

$V_{IN} = 12V, 24V, \text{ and } 36V, V_{OUT} = 5V$



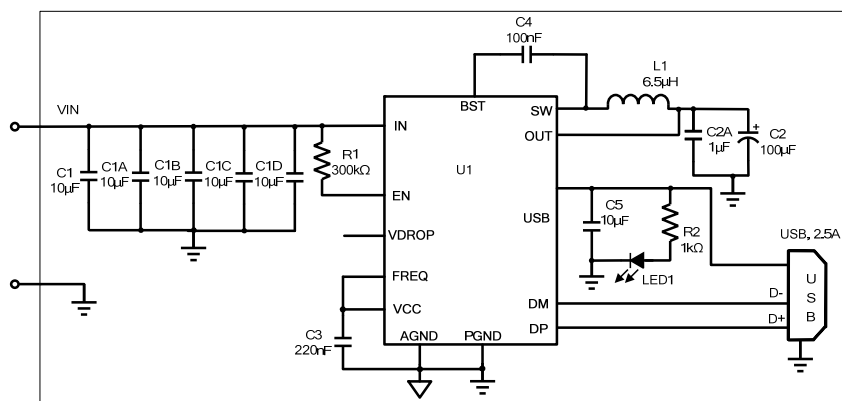
**Efficiency vs. Load Current**

$V_{IN} = 12V, 24V, \text{ and } 36V, V_{OUT} = 5V$



**NOTE:** All electrical characteristics are tested under 25°C ambient temperature,  $V_{IN} = 12V$  unless otherwise noted.

### DO-IT-YOURSELF SCHEMATIC

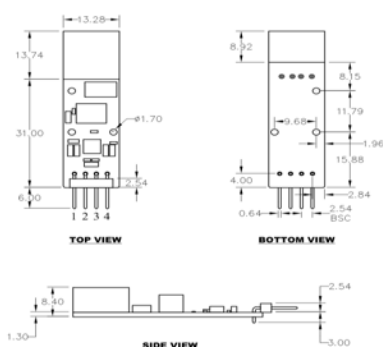


### BILL OF MATERIALS

Item	Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	5	C1, C1A, C1B, C1C, C1D	10 $\mu$ F	Ceramic Cap., 35V, X5R	0805	Murata	GRM21BR6YA106KE43L
2	1	C2	100 $\mu$ F	POSCAP, 6.3V, 15m $\Omega$ ESR	SMD, 7.3x4.3mm	Murata	ECASD40J107M015K00
3	1	C2A	1 $\mu$ F	Ceramic Cap., 10V, X5R	0402	Würth	885012105012
4	1	C3	0.22 $\mu$ F	Ceramic Cap., 16V, X5R	0402	Würth	885012105017
5	1	C4	0.1 $\mu$ F	Ceramic Cap., 10V, X7R	0402	Würth	885012205018
6	1	C5	10 $\mu$ F	Ceramic Cap., 6.3V, X5R	0603	Würth	885012106006
7	1	R1	300k $\Omega$	Item	0603	Yageo	RC0603FR-07300KL
8	1	R2	1k $\Omega$	Film Resistor, 1%	0402	Yageo	RC0402FR-071KL
9	1	LED	LED	LED, Green	0805	Kingbright	APHBM2012CGKSYKC
10	1	L1*	6.5 $\mu$ H	Inductor, DCR = 21.5m $\Omega$ , Isat = 6A	SMD, 7.0x6.9mm	Würth	744 314 650
11	1	USB	USB	Single USB Port	Tray	Würth	61400416021
12	1	Connector	4-Pin	2.54mm Pitch		Würth	613 004 110 21
13	1	U1	MP2496M	Step-Down Converter	QFN-26 (4mmx4mm)	MPS	MP2496MGR

\* Or equivalent

### PRODUCT PACKAGE AND DIMENSIONS



#### Pin Designation Function

Pin	Designation	Function
1	VIN	Input Voltage
2	VIN	Input Voltage
3	GND	Power Ground
4	GND	Power Ground

#### 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)