

## EP Z3 series –3W Wide Input Range DC-DC Converter

### Features

DIL PACKAGE  
NO EXTERNAL COMPONENTS  
REQUIRED  
INTERNAL FILTERING  
100% BURN IN  
UP TO 3W REGULATED OUTPUT  
POWER  
HIGH EFFICIENCY & INPUT UVLO  
UL 94V-0 PACKAGE MATERIAL  
CUSTOM SOLUTIONS AVAILABLE  
RoHS COMPLIANT



### Specification

#### Output Specifications

Voltage Setpoint Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) <sup>1</sup>	100mVp-p max
Line Regulation <sup>2</sup>	+/-1% max.
Load Regulation <sup>3</sup>	+/-0.5% max.
Minimum Load	20% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	150% typ.

#### Input Specifications

Input Voltage Range	2:1 Input Range
Input Filter Protection	Capacitor Type Fuse Recommended

#### Environmental Spec.

Operating Temperature	-40°C to +71°C
Case Temperature	+100°C max.
Storage Temperature	-55°C to +105°C
Humidity	95% max.
Cooling	Free-Air Convection

#### General Specification

Efficiency	79% min.
Isolation Voltage <sup>4</sup>	1500VDC min.
Isolation Resistance	10 ohms min
Isolation Capacitance	80pF max.
Switching Frequency	100kHz min.
MTBF <sup>5</sup>	4.5g typ.
Weight	Non-Conductive Plastic
Case Material Case Size	22.1 mm* 13.7mm*8.5mm
Potting Material	Epoxy (UL94V-0)
Radiated Emissions	EN55022 Class B

<sup>1</sup> Measured with 1uF ceramic capacitor connect to the output pins.

<sup>2</sup> High Line to Low Line.

<sup>3</sup> Load Regulation is for output load current change from 20% to 100%.

<sup>4</sup> For 10 seconds.

<sup>5</sup> MIL-HDBK-217F @25 °C , Ground Benign

## Selection Guide 2:1 3W Output

Specifications typical at  $t_a=25^\circ\text{C}$ , nominal input voltage, rated output current unless otherwise specified.

MODEL NUMBER	INPUT	OUTPUT	OUTPUT	INPUT <sup>6</sup> CURRENT(mA)		EFF (%) <sup>7</sup>	ISOLATION <sup>8</sup> (VDC)
	VOLTAGE (VDC)	VOLTAGE (VDC)	CURRENT (mA)	FULL LOAD	NO LOAD		
EP-1205Z3	9-18	5	600	313	35	79	1500
EP-1212Z3	9-18	12	250	309	35	80	1500
EP-1215Z3	9-18	15	200	309	35	81	1500
EP-1205Z3	9-18	+/-5	+/-300	317	35	79	1500
EP-1212Z3	9-18	+/-12	+/-125	313	35	80	1500
EP-1215Z3	9-18	+/-15	+/-100	313	35	80	1500
EP-2405Z3	18-36	5	600	154	20	81	1500
EP-2412Z3	18-36	12	250	154	20	81	1500
EP-2415Z3	18-36	15	200	153	20	82	1500
EP-2405Z3	18-36	+/-5	+/-300	158	20	79	1500
EP-2412Z3	18-36	+/-12	+/-125	156	20	80	1500
EP-2415Z3	18-36	+/-15	+/-100	156	20	80	1500
EP-4805Z3	36-75	5	600	77	10	81	1500
EP-4812Z3	36-75	12	250	77	10	81	1500
EP-4815Z3	36-75	15	200	76	10	82	1500
EP-4805Z3	36-75	+/-5	+/-300	79	10	79	1500
EP-4812Z3	36-75	+/-12	+/-125	78	10	80	1500
EP-4815Z3	36-75	+/-15	+/-100	78	10	80	1500



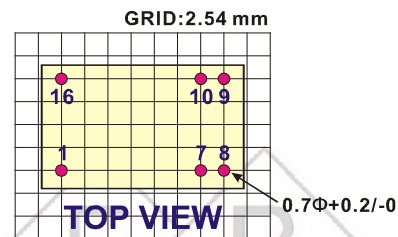
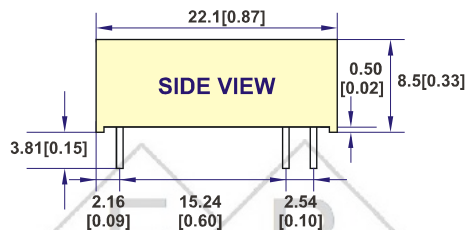
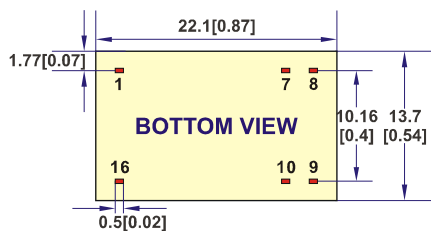
<sup>6</sup> Nominal Input Voltage

<sup>7</sup> Nominal Input Voltage, Full Load

<sup>8</sup> 1500VADC für 10 seconds

## Mechanical Dimensions & Recommended Footprint Details

PIN	SINGLE	DUAL
1	-Vin	-Vin
7	NC	NC
8	NC	Com
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

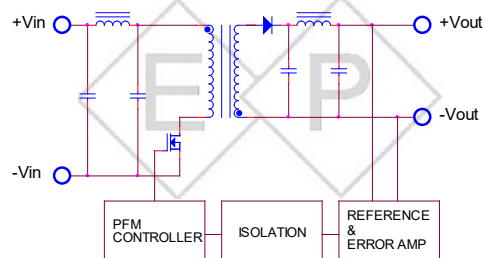


All dimensions are in mm [inches]

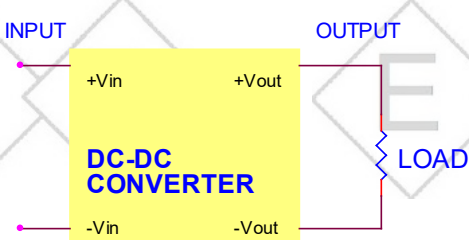
### NOTE :

- All dimensions are in mm[inches]
- 1. Pin Size is 0.5x0.3mm[0.02x0.01"]
- 2. Pin is Tolerance .XX=  $\pm 0.05$ mm
- 3. Tolerance .X or .XX=  $\pm 0.5$ mm

## Simplified Schematic



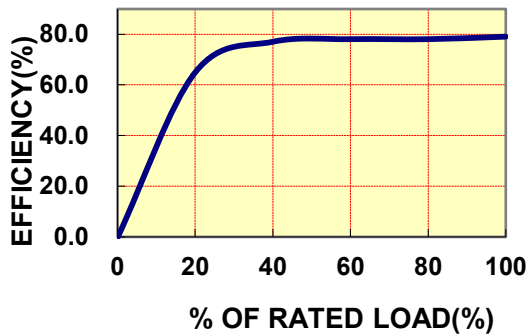
## Typical Applications



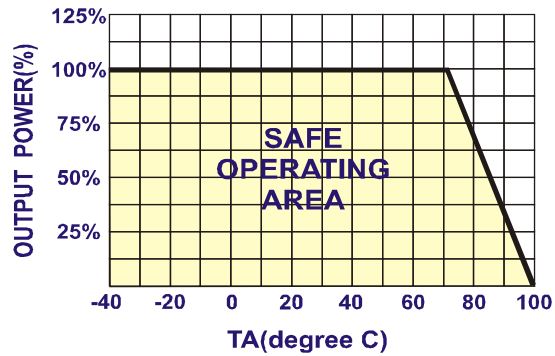
## Typical Performance Curves

Specifications typical at  $t_a=25^\circ\text{C}$ , nominal input voltage, rated output current unless otherwise specified.

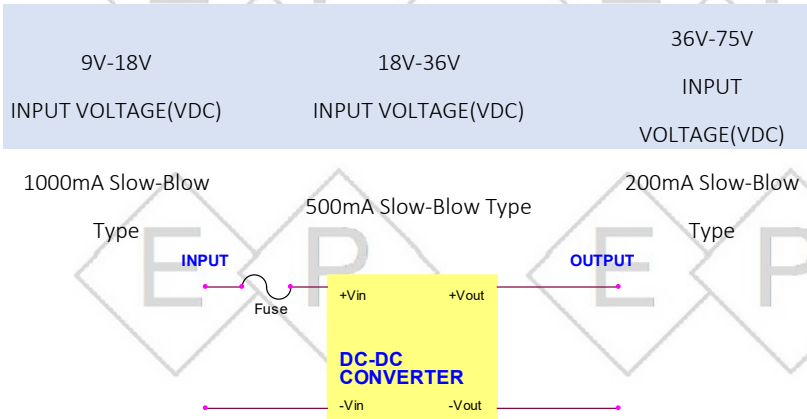
OUTPUT LOAD VS EFFICIENCY



TEMPERATURE DERATING



## Input fuse Selection Guide



Note: Certain applications may require the installation of external fuse in front of the input.

## EP-Z3-Series Application Notes

### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the EP-Z3-SERIES.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 100KHz is required.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 220uF.

We Can Offer EMC-Filter According To EN55011/22 Class B.

### Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.

Spezifikationen können sich ohne Vorankündigung ändern.

Für etwaige fehlerhafte Angaben oder unvollständige Bezeichnungen kann keine Haftung übernommen werden.