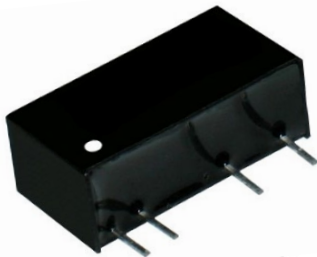


## EPM 500 Serie -3W unregulated DC-DC Converter

### Features

SINGLE IN LINE PACKAGE  
3W UNREGULATED OUTPUT POWER  
100% BURN-IN  
HIGH EFFICIENCY  
INTERNAL SMD TECHNOLOGY  
LOW COST  
NO HEATSINK REQUIRED  
UL 94V-0 PACKAGE MATERIAL  
CUSTOM SOLUTIONS AVAILABLE  
RoHS COMPLIANT



### Specification

#### Output Specification

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) <sup>1</sup>	100mVp-p max.
Line Regulation <sup>2</sup>	+/-1.2% max.
Load Regulation <sup>3</sup>	+/-8% max.
Minimum Load	10% of Full Load
Short Circuit Protection	Momentary

#### Input Specification

Input Voltage Range	+/-10% max.
Input Filter Protection	Capacitor Type Fuse Recommended

#### Environmental Specifications

Operating Temperature (OUTPUT=5V)	-40°C to +80 °C
Operating Temperature (OUTPUT=12V&15V)	-40°C to +85 °C
Storage Temperature	-55 °C to +125 °C
Humidity	95% max.
Cooling	Free-Air Convection

#### General Specifications

Efficiency	80%-88%
Isolation Voltage <sup>4</sup>	3000 VDC min
Isolation Resistance	Standard Models 109 ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	60KHz Typ.
MTBF <sup>5</sup>	>1,800,000 Hours
Weight	2.9g Typ.
Case Material	Non-Conductive Plastic
Case Size	19.6mm*7.5mm*10.2mm

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD, AND 25 °C UNLESS OTHERWISE NOTED

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

<sup>2</sup> Line Regulation is for a 1.0% change in input Voltage.

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

<sup>4</sup> 3000VDC for 3 seconds.

<sup>5</sup> 3000VDC for 3 seconds.

## Selection Guide 3W Output

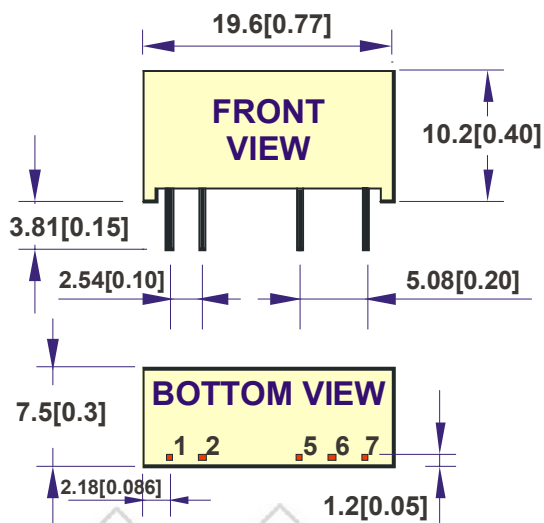
MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>6</sup>		EFF (%) <sup>7</sup>	ISOLATION (VDC)	PACKAGE
				CURRENT(mA)				
				FULL LOAD	NO LOAD			
EPM502	5	5	600	731	68	82	3000	B
EPM503	5	9	333	706	68	85	3000	B
EPM504	5	12	250	706	68	85	3000	B
EPM505	5	15	200	698	68	86	3000	B
EPM510	12	5	600	305	28	83	3000	B
EPM511	12	9	333	294	28	85	3000	B
EPM512	12	12	250	294	28	86	3000	B
EPM513	12	15	200	287	28	86	3000	B
EPM518	24	5	600	152	15	83	3000	B
EPM519	24	9	333	147	15	85	3000	B
EPM520	24	12	250	147	15	86	3000	B
EPM521	24	15	200	144	15	88	3000	B

Note: Other input to output voltages may be available. Please contact factory.

<sup>6</sup> NOMINAL INPUT VOLTAGE.

<sup>7</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

## Mechanical Dimensions & Recommended Footprint Details

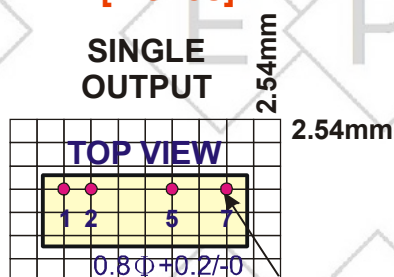


PIN	SINGLE
1	+Vin
2	-Vin
5	-Vout
7	+Vout

**NOTE :**

- All dimensions are in mm(Inches)
- 1. Pin Size is 0.50x0.30mm[0.02x0.01"]
- 2. Pin is Tolerance .XX= ±0.05mm
- 3. Tolerance .X or .XX= ±0.5mm

**All dimensions are in mm[inches]**



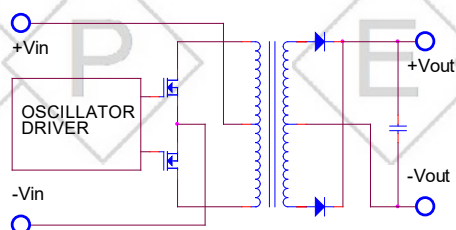
### Simplified Schematic

SINGLE OUTPUT



### Typical Applications

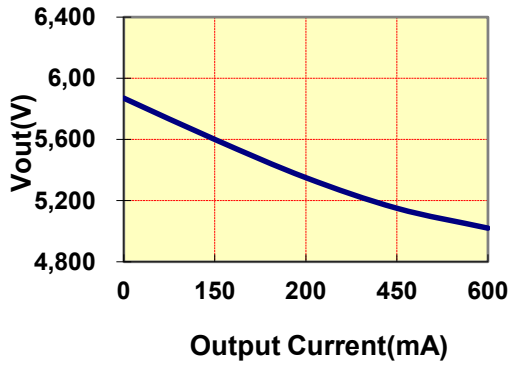
SINGLE OUTPUT



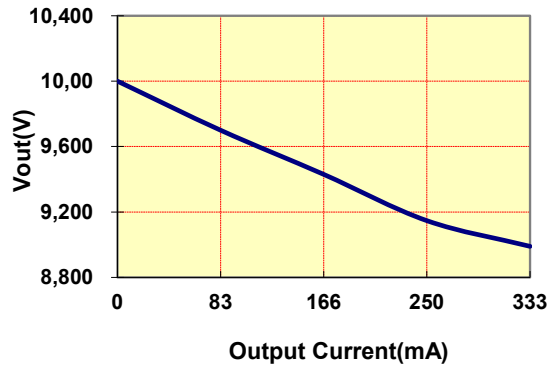
## Typical Performance Curves

Specifications typical at TA=25°C, nominal input voltage, rated output current unless otherwise specified.

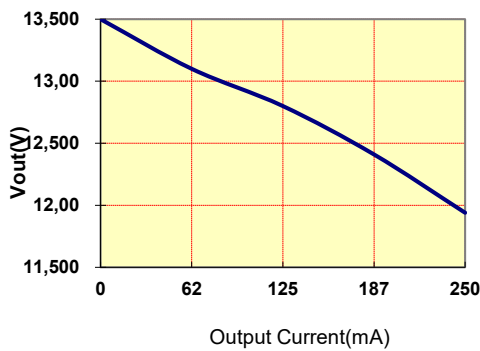
VOUT VS LOAD(5Vout Models)



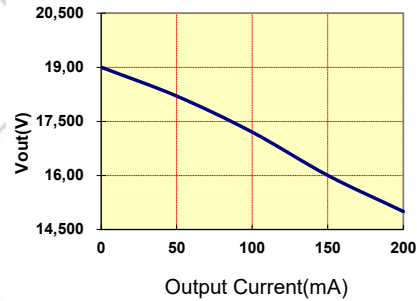
VOUT VS LOAD(9Vout Models)



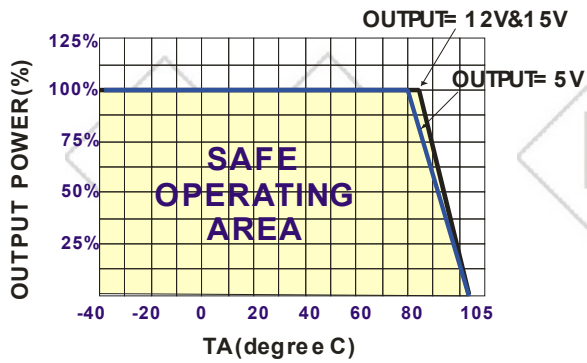
VOUT VS LOAD(12Vout Models)



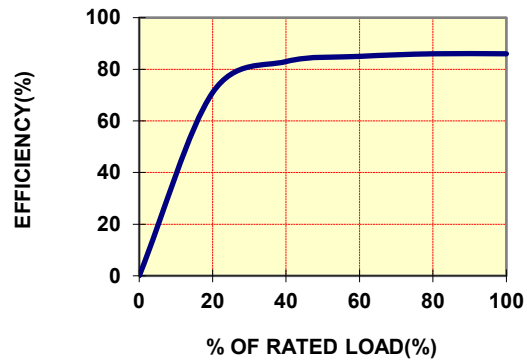
VOUT VS LOAD(15Vout Models)



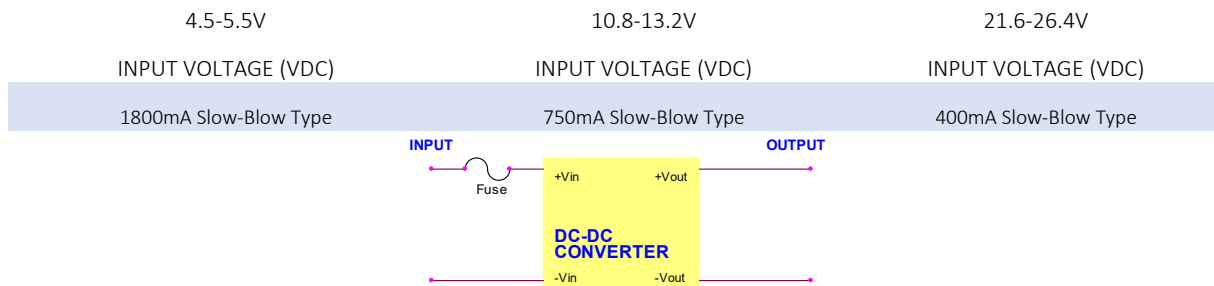
DERATING CURVES



EFFICIENCY VS LOAD



## Input Fuse Selection Guide



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

## EPM 500 Series Application Notes:

### EXTERNAL CAPACITANCE REQUIREMENTS:

Output filtering is required for operation. A minimum of 10uF is needed. Output capacitance may be increased for additional filtering, not to exceed 220uF.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5ohm from DC to 250KHz is required.

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.