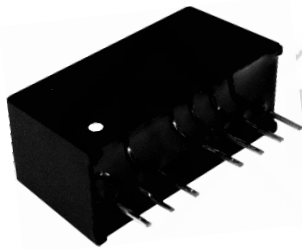


## EP PM Series -5W Wide Input Range DC-DC Converter

### Features

LEAD FREE  
1500VDC ISOLATION  
SINGLE IN LINE PACKAGE  
UP TO 5W REGULATED OUTPUT POWER  
NO EXTERNAL COMPONENTS REQUIRED  
INTERNAL FILTERING  
100% BURN IN  
HIGH EFFICIENCY  
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>	150mVp-p max.
Line Regulation <sup>2</sup>	+/-0.5% max.
Load Regulation <sup>3</sup>	+/-0.5% max.
Output : 3.3V	+/-1% max.
Minimum Load	20% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	150% typ.
Capacitive Load	5V:1000uF max. 12V:470uF max. 15V:330uF max.

#### Input Specification

Input Voltage Range	2:1 Input Range
Input Filter Protection	Capacitor Type
Start up Time(Nominal Input)	Fuse Recommended 10mS max.

#### Environmental Specifications

Operating Temperature	-40°C to 60°C
Case Temperature	+95°C max.
Storage Temperature	-55°C to +105°C
Humidity	95% max.
Cooling	Free-Air Convection

#### General Specifications

Efficiency	80% min.
Isolation Voltage <sup>4</sup>	1500VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	100 KHz min.
MTBF <sup>5</sup>	>400,000 Hours
Weight	4.8g typ.
Case Material	Non-Conductive Plastic
Case Size	21.80mm*9.20mm*11.10mm
Potting Material	Epoxy(UL94V-0)
Radiated Emissions	EN55022 Class B

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> High Line to Low Line

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

<sup>4</sup> 1500VDC for 10 seconds 3000VDC for 3 seconds.

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

## Selection Guide 5W Output

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>6</sup> CURRENT(mA)		EFF (%) <sup>7</sup>	ISOLATION <sup>8</sup> (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
				PM52-01	4.5-9			
PM52-02	9-18	3.3	1200	413	50	80	1500	H
PM52-03	9-18	5	1000	514	50	81	1500	H
PM52-04	9-18	12	417	491	50	85	1500	H
PM52-05	9-18	15	333	496	50	84	1500	H
PM52-06	18-36	3.3	1200	204	25	81	1500	H
PM52-07	18-36	5	1000	251	25	83	1500	H
PM52-08	18-36	12	417	245	25	85	1500	H
PM52-09	18-36	15	333	245	25	85	1500	H
PM52-10	36-75	3.3	1200	102	15	81	1500	H
PM52-11	36-75	5	1000	129	15	81	1500	H
PM52-12	36-75	12	417	123	15	85	1500	H
PM52-13	36-75	15	333	122	15	85	1500	H

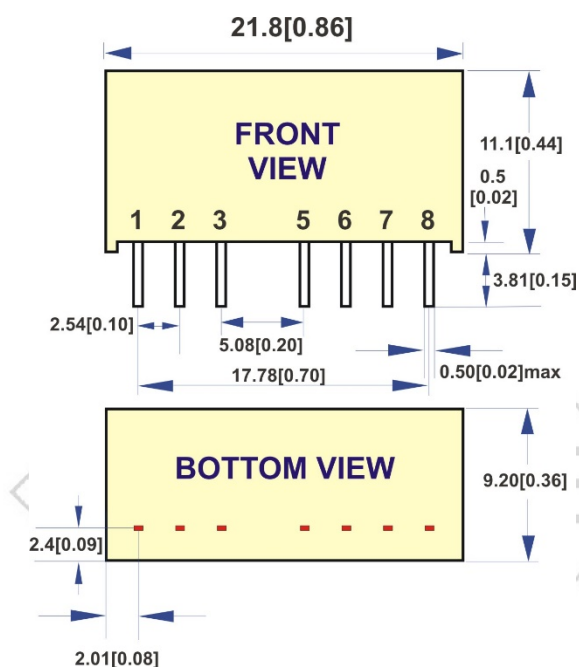
<sup>6</sup> NOMINAL INPUT VOLTAGE.

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

<sup>8</sup> 1500VDC for 10 seconds.

## Mechanical Dimension & Recommended Footprint Details

### PACKAGE "H"



### PIN SINGLE

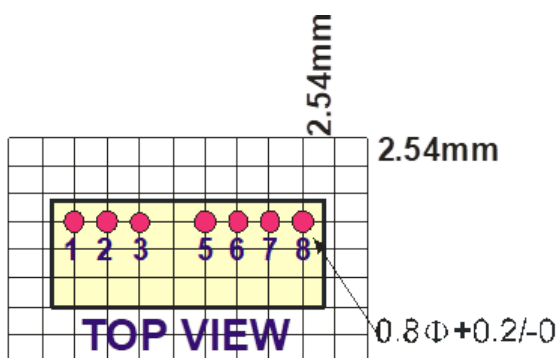
PIN	SINGLE
1	-Vin
2	+Vin
3	Remote On/Off
5	NC
6	+Vout
7	-Vout
8	NC

- NOTE : All Dimensions 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]**

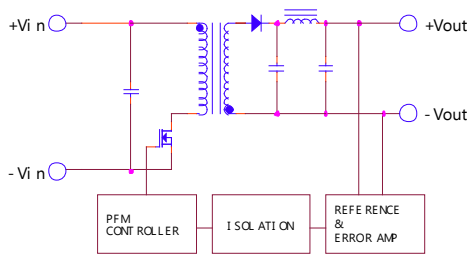
### Remote On/Off Control

Parameter	Min	Max
Supply On	Under 1 VDC or Open Circuit	
Supply Off	4VDC	
Standby Input Current		0.2mA
Control Input Current(On)		-0.4mA
Control Input Current(Off)		1mA
Control Common	Refernced to -Vin (pin 1)	



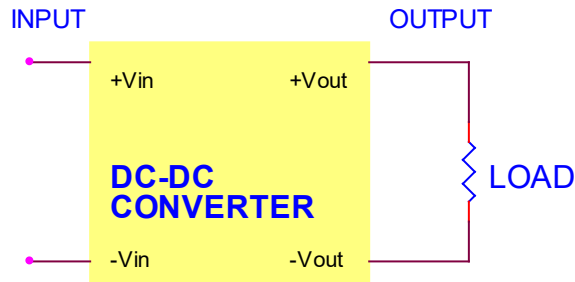
## Simplified Schematic

SINGLE OUTPUT



## Typical Application

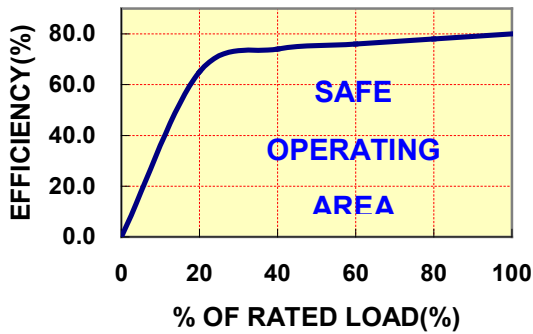
SINGLE OUTPUT



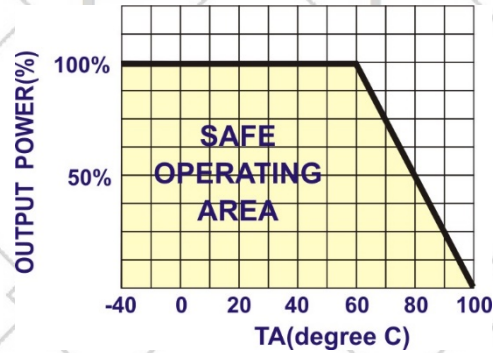
## Typical Performance Curves

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

9-18V

INPUT VOLTAGE(VDC)

1000mA Slow-Blow Type

18-36V

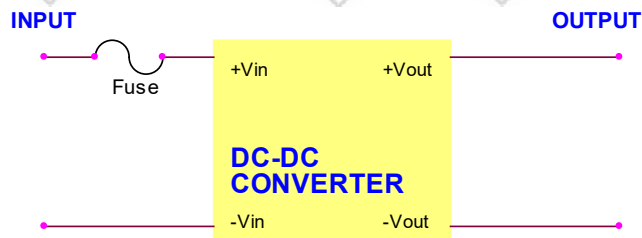
INPUT VOLTAGE(VDC)

600mA Slow-Blow Type

36-75V

INPUT VOLTAGE(VDC)

300mA Slow-Blow Type



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

## EP PM Series Application Notes:

### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the EP PM 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.