

EPPM-Serie -1W unregulated

Continous Short Circuit Protection
DC-DC Converter

Features

CONTINUOUS SHORT CIRCUIT PROTECTION
SINGLE IN LINE PACKAGE
100% BURN IN
HIGH EFFICIENCY
INTERNAL SMD TECHNOLOGY
NO HEATSINK REQUIRED
UL 94V-0 PACKAGE MATERIAL
RoHS COMPLIANT



Specification

Output Specification

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

Input Specification

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

Environmental Specifications

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C
Humidity	95% max.
Cooling	Free-Air Convection

General Specifications

Efficiency	74%-83%
Isolation Voltage ³	3000 VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	20pF max.
Switching Frequency	100KHz max.
MTBF ⁴	>2,000,000 Hours
Weight	2.1g typ.
Case Material	Non-Conductive Plastic
Case Size	19.6mm*7.5mm*10.2mm
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A



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

¹ Line Regulation is for a 1.0% change in input Voltage.

² Load Regulation is for output load current change from 20% to 100%.

³ 1500VDC for 10 seconds,3000VDC for 3 seconds

⁴ MIL-HDBK-217F @25 °C , Ground Benign

Selection Guide

MODEL NUMBER	INPUT	OUTPUT	OUTPUT	INPUT ⁵		EFF (%) ⁶	ISOLATION (VDC)	PACKAGE
	VOLTAGE	VOLTAGE	CURRENT	CURRENT(mA)				
	(VDC)	(VDC)	(mA)	FULL LOAD	NO LOAD			
EPPM-01	5	5	200	256	38	78	3000	B
EPPM-02	5	9	111	253	38	79	3000	B
EPPM-03	5	12	84	253	39	79	3000	B
EPPM-04	5	15	67	251	39	80	3000	B
EPPM-05	5	+/-5	+/-100	256	40	78	3000	B
EPPM-06	5	+/-12	+/-42	253	40	79	3000	B
EPPM-07	5	+/-15	+/-34	251	40	80	3000	B
EPPM-08	12	5	200	108	15	77	3000	B
EPPM-09	12	9	111	105	15	79	3000	B
EPPM-10	12	12	84	105	14	80	3000	B
EPPM-11	12	15	67	103	14	81	3000	B
EPPM-12	12	+/-5	+/-100	106	15	78	3000	B
EPPM-13	12	+/-12	+/-42	105	14	80	3000	B
EPPM-14	12	+/-15	+/-34	103	14	81	3000	B
EPPM-15	24	5	200	54	8	77	3000	B
EPPM-16	24	9	111	53	7	78	3000	B
EPPM-17	24	12	84	53	7	79	3000	B
EPPM-18	24	15	67	52	7	80	3000	B
EPPM-19	24	+/-5	+/-100	53	8	78	3000	B
EPPM-20	24	+/-12	+/-42	53	7	79	3000	B
EPPM-21	24	+/-15	+/-34	53	7	80	3000	B

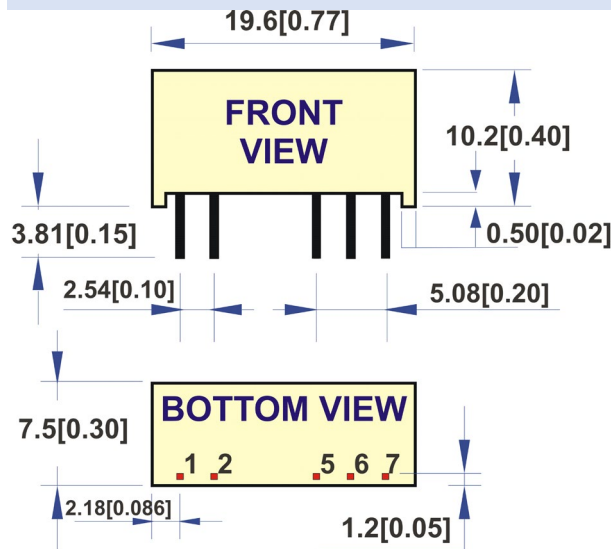
Note: Other input to output voltages may be available. Please contact factory.

⁵ NOMINAL INPUT VOLTAGE.

⁶ NOMINAL INPUT VOLTAGE, FULL LOAD.

Mechanical Dimensions & Recommended Footprint Details

PACKAGE "B"

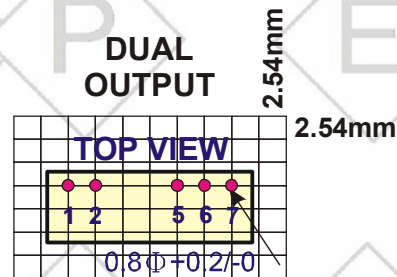
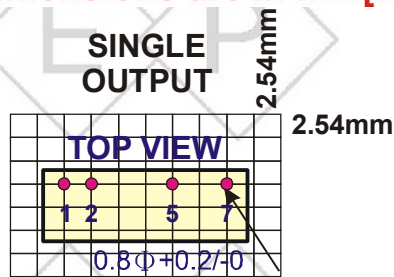


PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	NP	COMMON
7	+Vout	+Vout

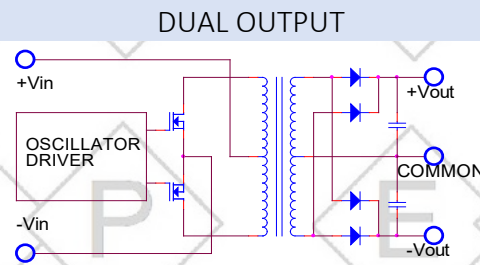
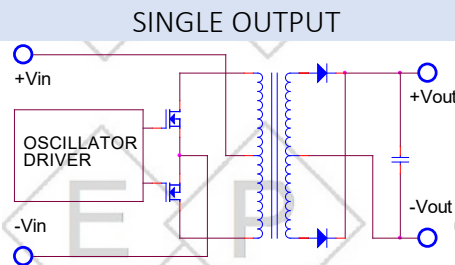
NOTE : All dimensions are in mm(Inches)

1. Pin Size is 0.50x0.30mm[0.02x0.01"]
2. Pin is Tolerance .XX= ±0.05mm
3. Tolerance .X or .XX= ±0.5mm

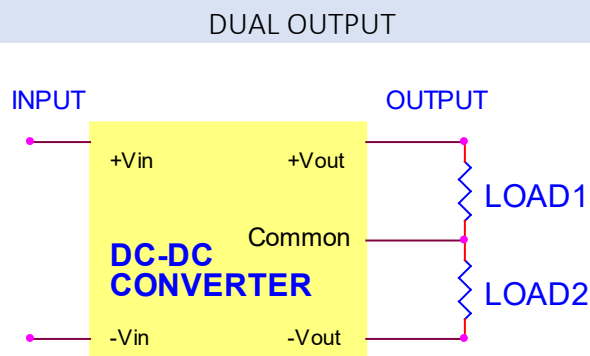
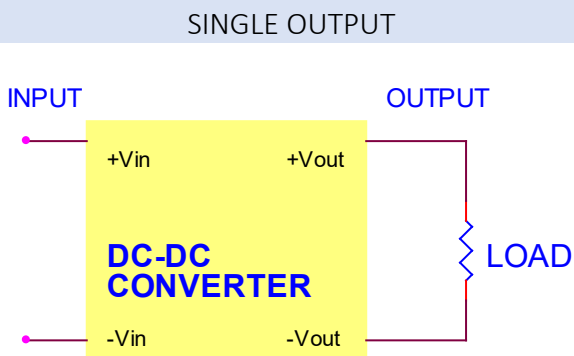
All dimensions are in mm[inches]



Simplified Schematic



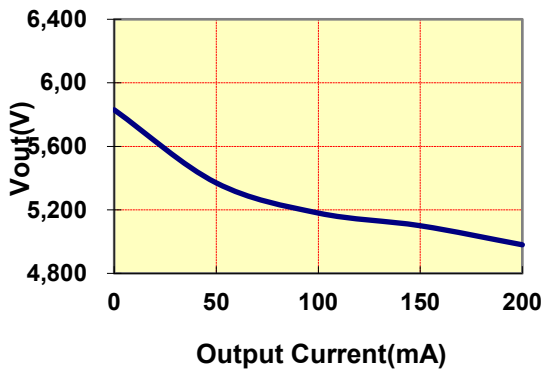
Typical Applications



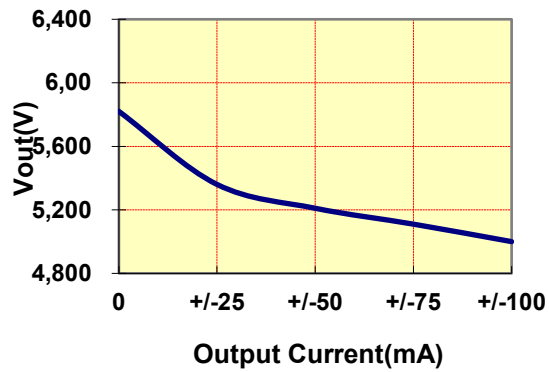
Typical Performance Curves

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

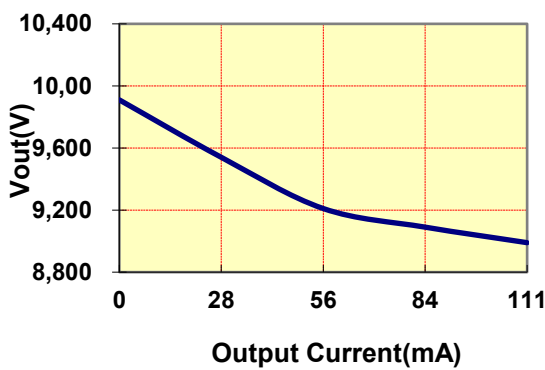
VOUT VS LOAD(5Vout Models)



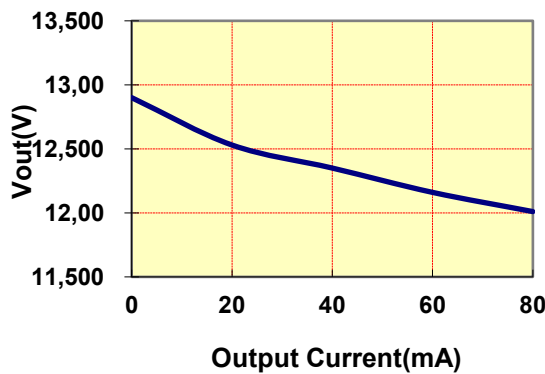
VOUT VS LOAD(+/-5Vout Models)



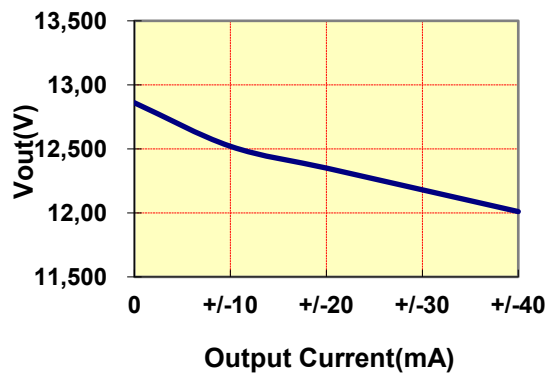
VOUT VS LOAD(9Vout Models)



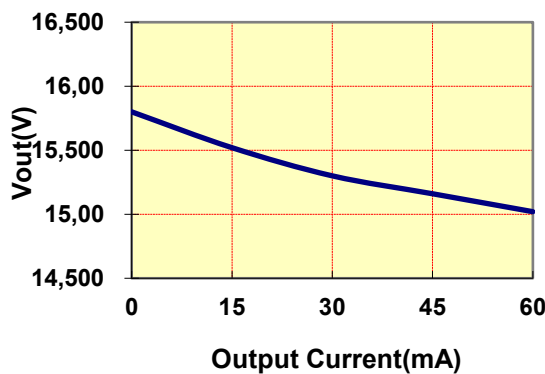
VOUT VS LOAD(12Vout Models)



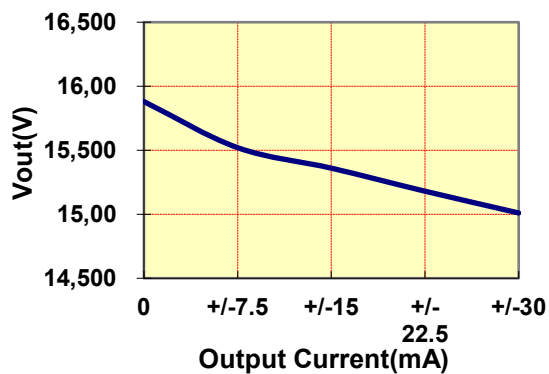
VOUT VS LOAD(+/- 12Vout Models)



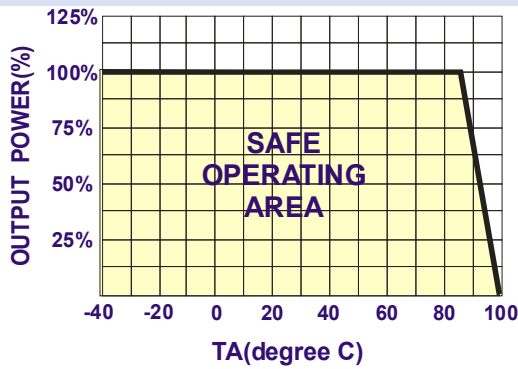
VOUT VS LOAD(15Vout Models)



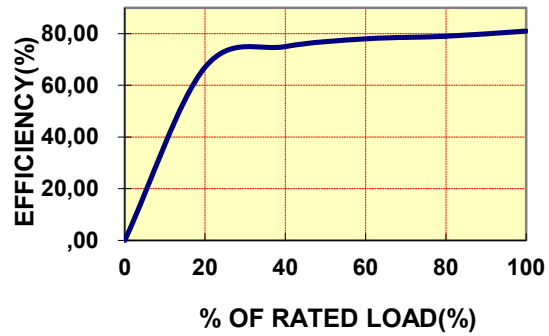
VOUT VS LOAD(+/- 15Vout Models)



DERATING CURVE



EFFICIENCY VS LOAD



Input Fuse Selection Guide

4.5-5.5V

INPUT VOLTAGE(VDC)

800mA Slow-Blow Type

10.8-13.2V

INPUT VOLTAGE(VDC)

300mA Slow-Blow Type

21.6-26.4V

INPUT VOLTAGE(VDC)

150mA Slow-Blow Type



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

EPPM 1W 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.