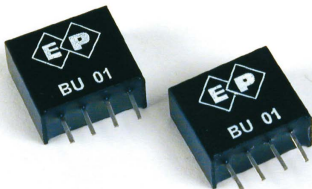


EPM BU Serie -1W unregulated DC-DC Converter

Features

SINGLE IN LINE PACKAGE
UP TO 1W 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) ¹	100mVp-p max.
Line Regulation ²	+/-1.2% max.
Load Regulation ³	+/-8% max.
Load Regulation ⁴	+/-12% max.
Minimum Load ⁵	10% of Full Load
Short Circuit Protection	Momentary

Input Specification

Input Voltage Range	+/-10% max.
Input Filter	Capacitor Type
Input Reflected Ripple Current	50mA p-p max.
Protection	Fuse Recommended

Environmental Specifications

Operating Temperature	-25 °C to +71 °C
Case Temperature	+90°C max.
Storage Temperature	-55 °C to +125 °C
Humidity	95% max.
Cooling	Free-Air Convection

General Specifications

Efficiency	70%-82%
Isolation Voltage ⁶	1500-3000 VDC
Isolation Resistance	109 ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	100KHz typ.
MTBF ⁷	>2,000,000 Hours
Weight	1.3g typ.
Case Material	Non-Conductive Plastic
Case Size	11.7mm*6.0mm*10.2mm 11.7mm*7.5mm*10.1mm
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class B

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

¹ Measured with 1uF ceramic capacitor connects to the output pins.

² Line Regulation is for a 1.0% change in input Voltage

³ Load Regulation is for output load current change from 20% to 100%.

⁴ Load Regulation is for output load current change from 20% to 100% when input voltage is 3V and 3.3V.

⁵ The output requires a minimum loading on the output to maintain specified regulation. Operation under min load condition will not damage these devices, however they may not meet all listed specification.

⁶ 1500VDC for 10 seconds, 3000VDC for 3 seconds.

⁷ MIL-HDBK-217F @25 °C, Ground Benign

Selection Guide 1W 1500VDC Isolation

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁸ CURRENT(mA)		EFF (%) ⁹	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
EPM-BU-30	3	3	333	475	35	70	1500	B
EPM-BU-31	3.3	3	333	425	43	71	1500	B
EPM-BU-32	3.3	3.3	303	403	43	75	1500	B
EPM-BU-33	3	5	200	475	50	70	1500	B
EPM-BU-34	3.3	5	200	404	46	75	1500	B
EPM-BU-35	5	3.3	303	282	32	71	1500	B
EPM-BU-01	5	5	200	274	30	73	1500	A
EPM-BU-02	5	9	110	260	27	77	1500	A
EPM-BU-03	5	12	84	253	26	79	1500	A
EPM-BU-04	5	15	67	253	28	79	1500	A
EPM-BU-29	5	24	42	253	28	79	1500	B
EPM-BU-05	12	3.3	300	112	11	74	1500	A
EPM-BU-11	12	5	200	112	11	74	1500	A
EPM-BU-12	12	9	110	105	11	79	1500	A
EPM-BU-13	12	12	84	102	11	82	1500	A
EPM-BU-14	12	15	67	102	12	82	1500	A
EPM-BU-15	24	3.3	300	57	8	73	1500	B
EPM-BU-21	24	5	200	57	8	73	1500	B
EPM-BU-22	24	9	110	54	8	77	1500	B
EPM-BU-23	24	12	84	54	8	77	1500	B
EPM-BU-24	24	15	67	54	10	77	1500	B
EPM-BU-25	24	24	42	54	10	77	1500	B
EPM-BU-26	48	5	200	29	10	72	1500	B

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

⁸ NOMINAL INPUT VOLTAGE.

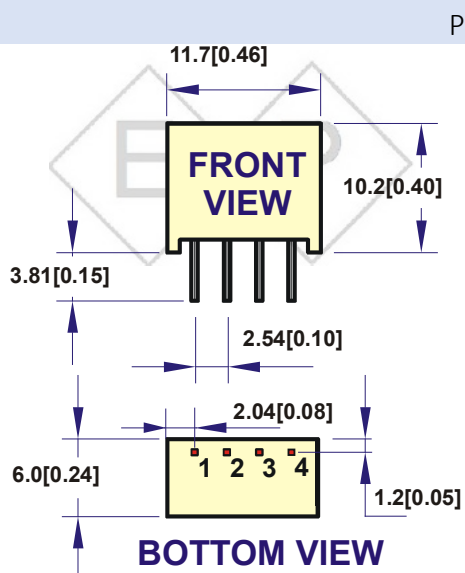
⁹ NOMINAL INPUT VOLTAGE, FULL LOAD.

Selection Guide 1W 3000VDC Isolation

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ¹⁰ CURRENT(mA)		EFF (%) ¹¹	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
EPM-BU-32-3K	3.3	3.3	303	403	43	75	3000	B
EPM-BU-01-3K	5	5	200	274	26	73	3000	B
EPM-BU-02-3K	5	9	110	260	27	77	3000	B
EPM-BU-03-3K	5	12	84	253	26	79	3000	B
EPM-BU-04-3K	5	15	67	253	28	79	3000	B
EPM-BU-05-3K	12	3.3	300	112	11	74	3000	B
EPM-BU-11-3K	12	5	200	112	11	74	3000	B
EPM-BU-12-3K	12	9	110	105	11	79	3000	B
EPM-BU-13-3K	12	12	84	102	11	82	3000	B
EPM-BU-14-3K	12	15	67	102	12	82	3000	B
EPM-BU-15-3K	24	3.3	300	57	8	73	3000	B
EPM-BU-21-3K	24	5	200	57	8	73	3000	B
EPM-BU-22-3K	24	9	110	54	8	77	3000	B
EPM-BU-23-3K	24	12	84	54	8	77	3000	B
EPM-BU-24-3K	24	15	67	54	10	77	3000	B

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

Mechanical Dimensions



PIN	SINGLE
1	-Vin
2	+Vin
3	-Vout
4	+Vout

NOTE : All dimensions are in mm(Inches)

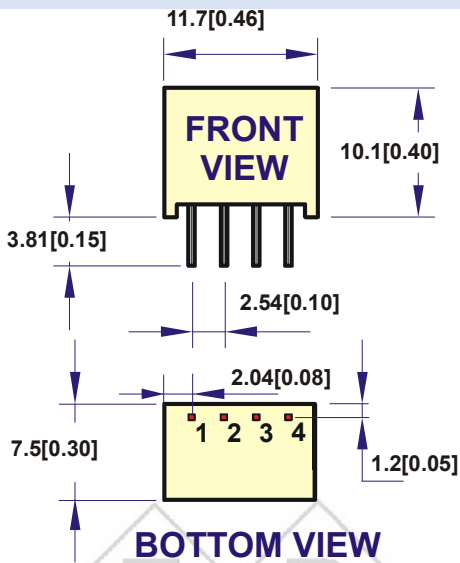
1. Pin Size is 0.50x0.30mm[0.02x0.01"]
2. Pin is Tolerance .XX= ±0.05mm
3. Tolerance .X or .XX= ±0.5mm

All dimensions are in mm[inches]

¹⁰ NOMINAL INPUT VOLTAGE.

¹¹ NOMINAL INPUT VOLTAGE, FULL LOAD.

Package "B"



PIN SINGLE

PIN	SINGLE
1	-Vin
2	+Vin
3	-Vout
4	+Vout

NOTE : All dimensions are in mm(Inches)

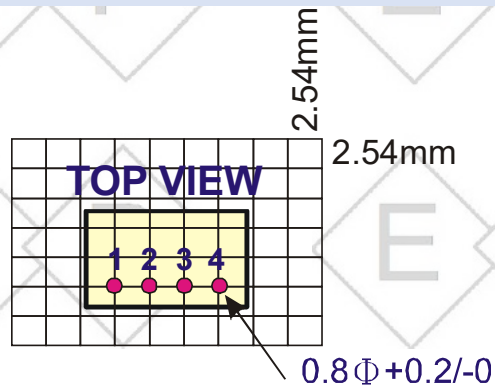
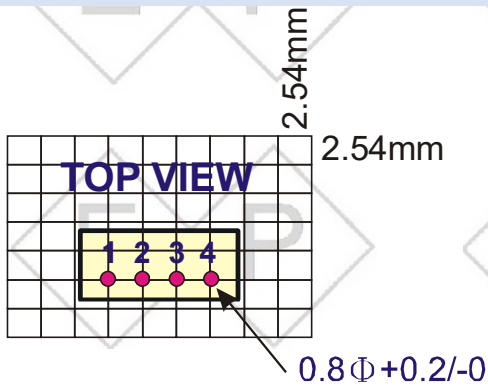
1. Pin Size is 0.50x0.30mm[0.02x0.01"]
2. Pin is Tolerance .XX= ±0.05mm
3. Tolerance .X or .XX= ±0.5mm

All dimensions are in mm[inches]

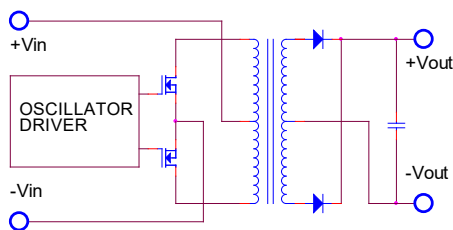
Recommended Footprint Details

PACKAGE "A"

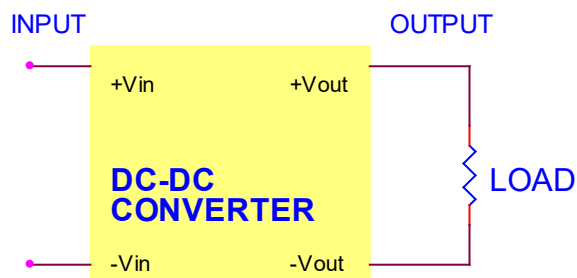
PACKAGE "B"



Simplified Schematic



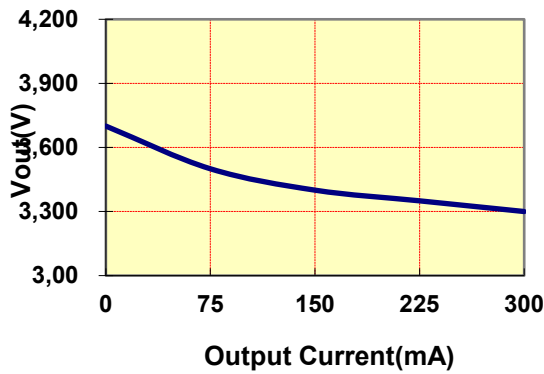
Typical Applications



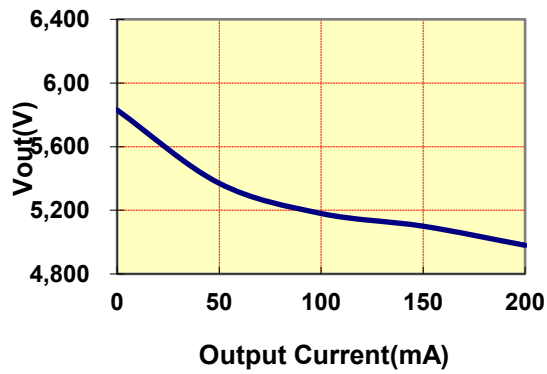
Typical Performance Curves

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

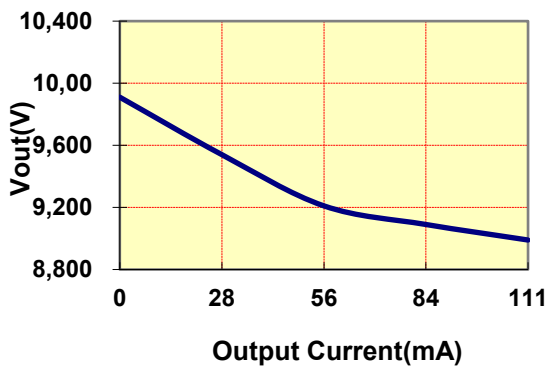
VOUT VS LOAD(3.3Vout Models)



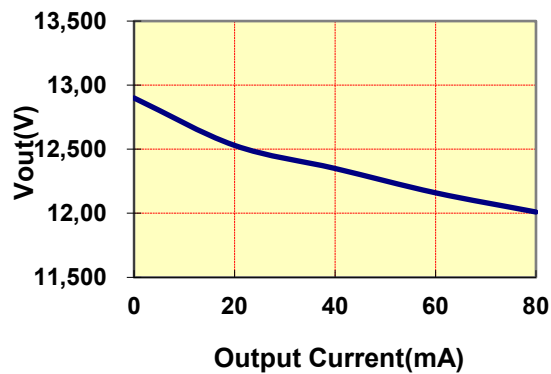
VOUT VS LOAD(5Vout Models)



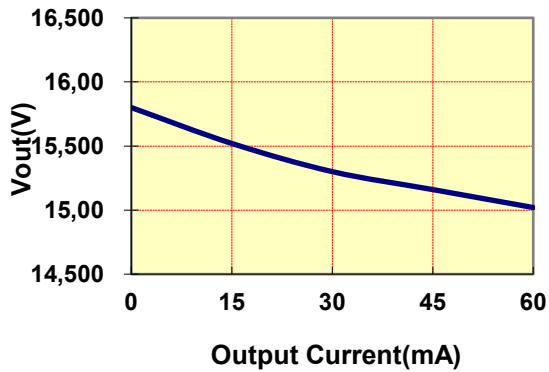
VOUT VS LOAD(9Vout Models)



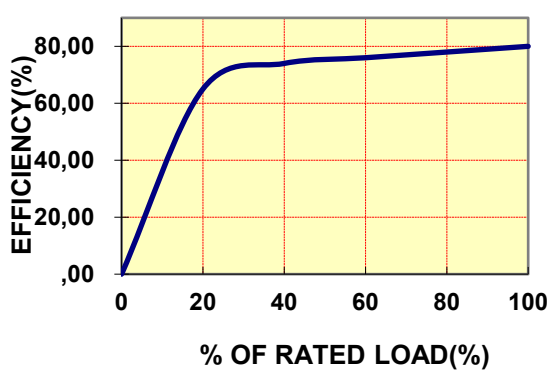
VOUT VS LOAD(12Vout Models)



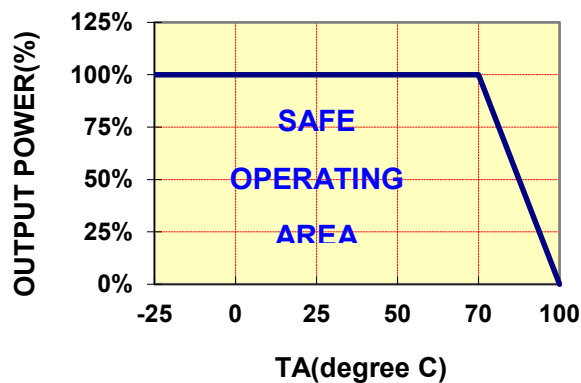
VOUT VS LOAD(15Vout Models)



EFFICIENCY VS LOAD

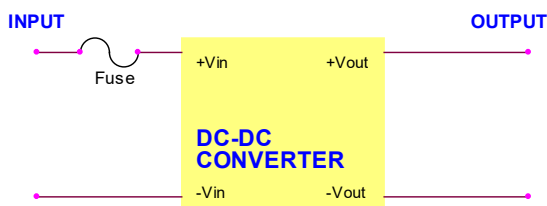


DERATING CURVES



Input Fuse Selection Guide

2.7-3.6V INPUT VOLTAGE(VDC)	4.5-5.5V INPUT VOLTAGE(VDC)	10.8-13.2V INPUT VOLTAGE(VDC)	21.6-26.4V INPUT VOLTAGE(VDC)	43.2-52.8V INPUT VOLTAGE(VDC)
1200mA Slow-Blow Type	500mA Slow-Blow Type	300mA Slow-Blow Type	150mA Slow-Blow Type	100mA Slow-Blow Type



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

EPM BU 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 0.5 ohm from DC to 250 KHz 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.