

## EP300 series – 3W Regulated DC-DC Converter

### Features

DUAL IN LINE PACKAGE  
UP TO 3W REGULATED OUTPUT POWER  
NO EXTERNAL COMPONENTS REQUIRED  
100% BURN IN  
HIGH EFFICIENCY  
UL 94V-0 PACKAGE MATERIAL  
CUSTOM SOLUTIONS AVAILABLE



### Specification

#### Output Specification

Voltage Set-point Accuracy	+/-3% 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>	+/-1% max.
Minimum Load	10% of Full Load
Short Circuit Protection	Current Limit Protection
Short Circuit Restart	Automatic
Transient Response <sup>4</sup>	200uS max.

#### Input Specification

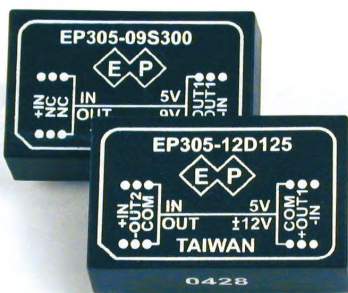
Input Voltage Range	+/-10% max.
Input Filter	Pi Network
Protection	Fuse Recommended

#### Environmental Specifications

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

#### General Specifications

Efficiency	50% min.
Isolation Voltage <sup>5</sup>	1500VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	50 KHz min.
MTBF <sup>6</sup>	>850,000 Hours
Weight	12.0g-14.4g
Case Material	Non-Conductive Plastic Or Five-Sided Shield Case
Case Size	31.8mm*20.3mm*10.2mm
Potting Material	Epoxy(UL 94V-0)
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A



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

<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 10% to 100%.

<sup>4</sup> 25% Step Load Change

<sup>5</sup> For 10 seconds.

<sup>6</sup> MIL-HDBK-217F @25 °C , Ground Benign.

## Selection Guide

MODEL NUMBER <sup>7</sup>	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>8</sup> CURRENT(mA)		EFF (%) <sup>9</sup>	Isolation (VDC)
				FULL LOAD	NO LOAD		
EP305-05S600	4.5-5.5	5	600	960	85	63	1500
EP305-09S330	4.5-5.5	9	330	950	85	63	1500
EP305-12S250	4.5-5.5	12	250	930	85	64	1500
EP305-15S200	4.5-5.5	15	200	940	85	65	1500
EP305-24S125	4.5-5.5	24	125	910	92	66	1500
EP305-05D300	4.5-5.5	+/-5	+/-300	1110	85	54	1500
EP305-12D125	4.5-5.5	+/-12	+/-125	930	85	62	1500
EP305-15D100	4.5-5.5	+/-15	+/-100	950	90	63	1500
EP312-05S600	10.8-13.2	5	600	410	40	61	1500
EP312-09S330	10.8-13.2	9	330	400	40	63	1500
EP312-12S250	10.8-13.2	12	250	380	40	65	1500
EP312-15S200	10.8-13.2	15	200	360	40	67	1500
EP312-24S125	10.8-13.2	24	125	360	40	68	1500
EP312-05D300	10.8-13.2	+/-5	+/-300	440	40	57	1500
EP312-12D125	10.8-13.2	+/-12	+/-125	390	40	63	1500
EP312-15D100	10.8-13.2	+/-15	+/-100	367	40	65	1500
EP324-05S600	21.6-26.4	5	600	200	27	63	1500
EP324-09S330	21.6-26.4	9	330	190	26	66	1500
EP324-12S250	21.6-26.4	12	250	180	27	67	1500
EP324-15S200	21.6-26.4	15	200	192	26	65	1500
EP324-24S125	21.6-26.4	24	125	180	27	68	1500
EP324-05D300	21.6-26.4	+/-5	+/-300	210	27	60	1500
EP324-12D125	21.6-26.4	+/-12	+/-125	194	26	64	1500
EP324-15D100	21.6-26.4	+/-15	+/-100	192	27	65	1500
EP348-05S600	43.2-52.8	5	600	100	15	63	1500
EP348-09S330	43.2-52.8	9	330	95	15	65	1500
EP348-12S250	43.2-52.8	12	250	90	15	66	1500
EP348-15S200	43.2-52.8	15	200	90	15	67	1500
EP348-24S125	43.2-52.8	24	125	90	15	67	1500
EP348-05D300	43.2-52.8	+/-5	+/-300	100	15	63	1500
EP348-12D125	43.2-52.8	+/-12	+/-125	90	15	65	1500
EP348-15D100	43.2-52.8	+/-15	+/-100	90	15	65	1500

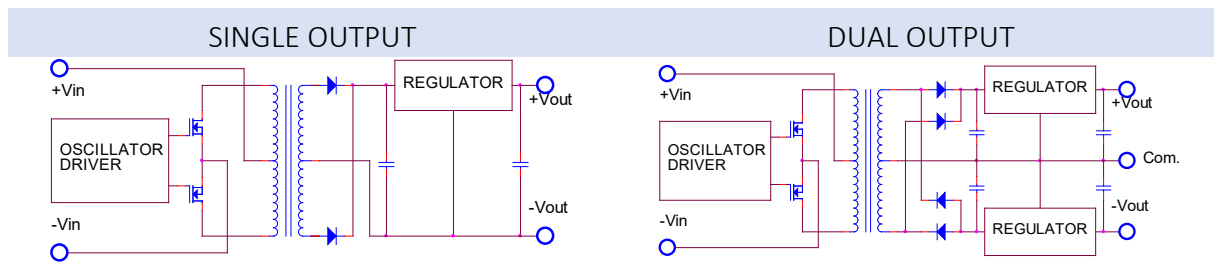
Note: Other input to output voltages may be available. Please contact factory.

<sup>7</sup> EP\*\*\*.\*\*- Non-Conductive Plastic EP\*\*\*.\*\*(M) Five-sided shield case

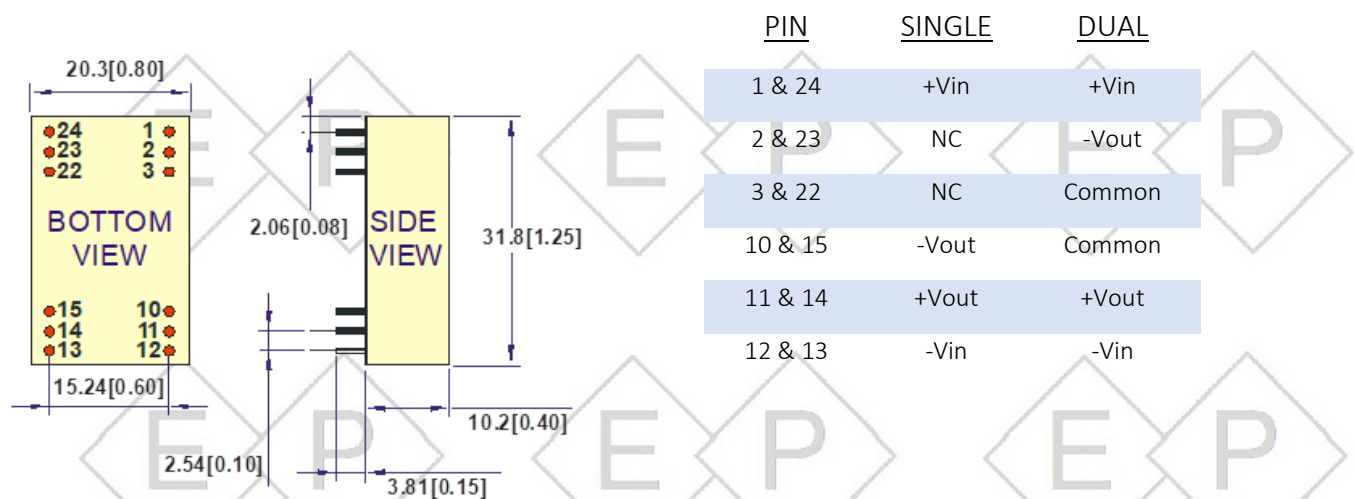
<sup>8</sup> NOMINAL INPUT VOLTAGE.

<sup>9</sup> NOMINAL INPUT VOLTAGE, FULL LOAD

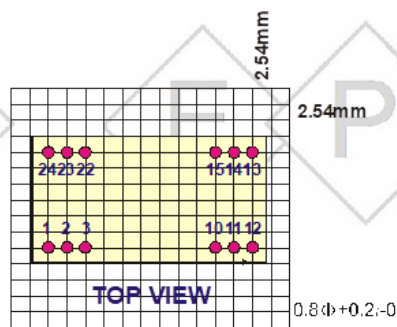
## Simplified Schematic



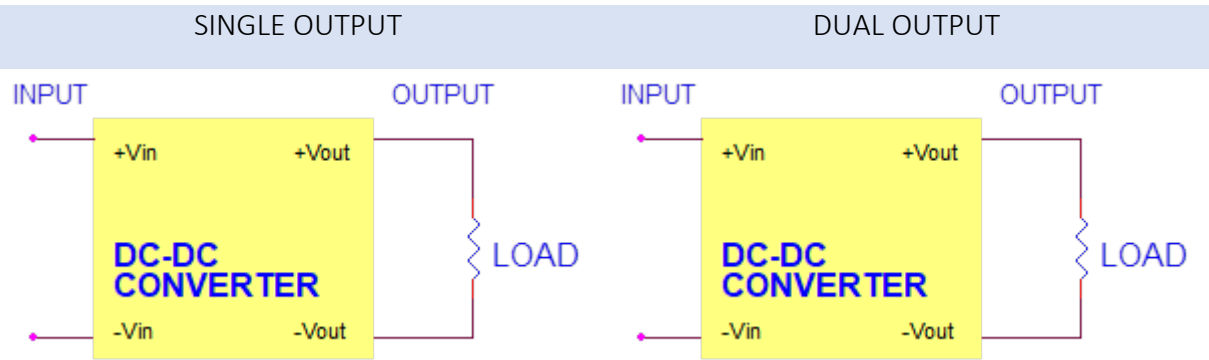
## Mechanical Dimensions & Recommended Footprint Details



All dimensions are in mm[inches]



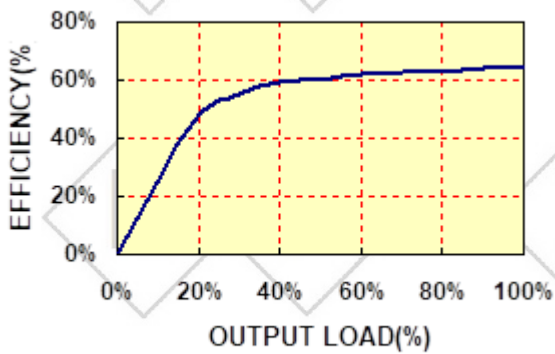
## Typical Applications



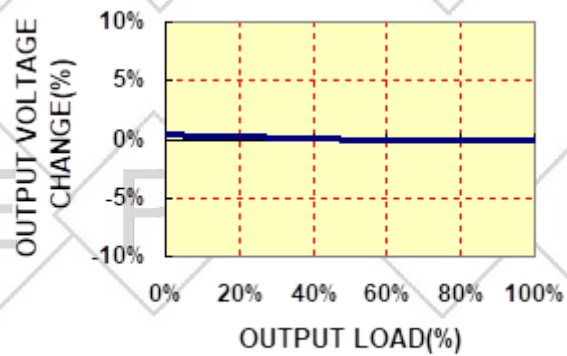
## Typical Performance Curves

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

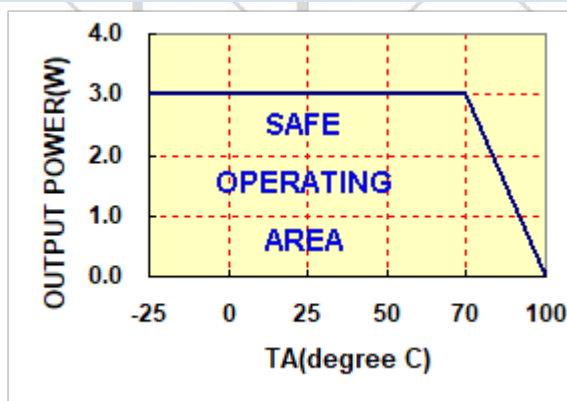
OUTPUT LOAD VS EFFICIENCY



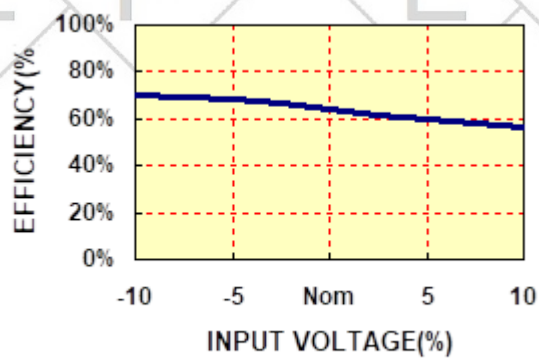
OUTPUT LOAD VS OUTPUT VOLTAGE



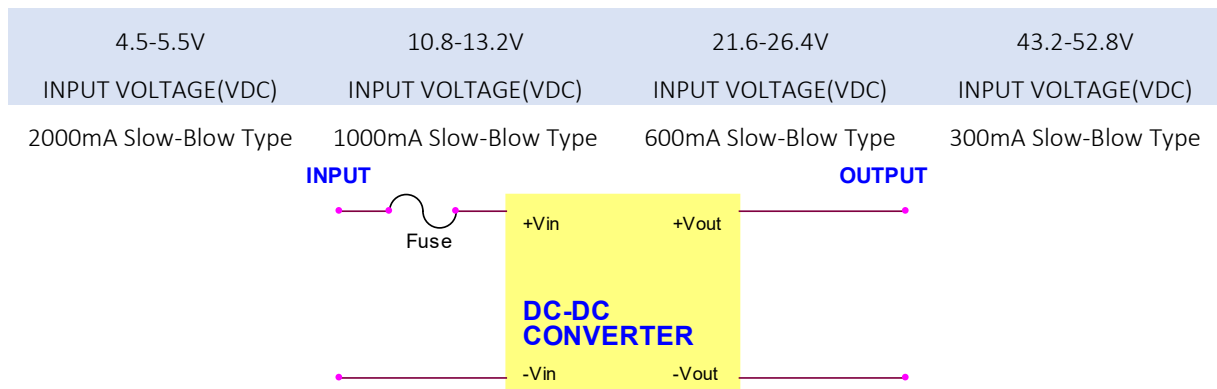
TEMPERATURE DERATING



INPUT VOLTAGE VS EFFICIENCY



## Input Fuse Selection Guide



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

## EP300 SERIES APPLICATION NOTES:

### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the EP300 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.