

## Features:

4W DIL Package  
4.5-9 V, 9-18 V, 18-36 V, 36-72 V  
Wide Input Range  
100% Burned In  
High Efficiency  
UL 94-V0 Package Material  
Custom Solutions Available  
RoHS Compliant

## Specifications:

Output Specifications	Voltage Setpoint Accuracy  Temperature Coefficient Ripple & Noise (20MHz BW) <sup>1</sup> Line Regulation <sup>2</sup>  Load Regulation <sup>3</sup>  Minimum Load Short Circuit Protection Short Circuit Restart Over Load Protection Transient Response <sup>4</sup>	Out1 +/-2% max Out2/Out3 +/-5% max +/-0.05%/°C 100mVp-p max Out1 +/-1% max Out2/Out3 +/-3% max Out1 +/-1% max Out2/Out3 +/-5% max 10% of Full Load Continuous Automatic 110%~180% 200uS max
Input Specifications	Input Voltage Range Input Filter Protection	2:1 Input Range Pi Network Fuse Recommended
Environmental Specifications	Operating Temperature Storage Temperature Case Temperature Humidity Cooling	-40°C to +71°C -55°C to +125°C +95°C max 95% max Free-Air Convection
General Specifications	Efficiency Isolation Voltage <sup>5</sup>  Isolation Resistance Isolation Capacitance Switching Frequency MTBF <sup>6</sup> Weight Case Material Case Size Potting Material Conducted Emissions Radiated Emissions	70% min In to Out 1000VDC min Out1 to Out2 500VDC min 109 ohms min 250pF max 50KHz min >900,000 Hours 17.5g Typ Five-Side Shielded Case 31.8mm*20.3mm*12.2mm Epoxy(UL94-V0) EN55022 Class A EN55022 Class A

All Specifications Typical at Nominal Line, Full Load, and 25 °C Unless Otherwise Noted.

**Footnotes:** <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 20% to 100%. <sup>4</sup> 25% Step Load Change.  
<sup>5</sup> 1000 VDC for 10 seconds. <sup>6</sup> MIL-HDBK-217F @25°C , Ground Benign.

## Selection Guide 2:1 4 W Triple Output

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE(VDC)			OUTPUT CURRENT(mA)			INPUT <sup>1</sup> CURRENT(mA)		EFF <sup>2</sup> (%)	PACKAGE
		Out 1	Out 2	Out 3	Out 1	Out 2	Out 3	FULL LOAD	NO LOAD		
EP4,5-9-05S12D 4W	4.5-9	+5	+12V	-12V	300	100	100	1085	20	74	T
EP4,5-9-05S15D 4W	4.5-9	+5	+15	-15	300	80	80	1080	20	74	T
EP9-18-05S12D 4W	9-18	+5	+12V	-12V	300	100	100	457	20	73	T
EP9-18-05S15D 4W	9-18	+5	+15	-15	300	80	80	450	20	74	T
EP18-36-05S12D 4W	18-36	+5	+12V	-12V	300	100	100	228	20	73	T
EP18-36-05S15D 4W	18-36	+5	+15	-15	300	80	80	225	20	74	T
EP36-72-05S12D 4W	36-72	+5	+12V	-12V	300	100	100	114	20	73	T
EP36-72-05S15D 4W	36-72	+5	+15	-15	300	80	80	113	20	74	T

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

## Mechanical Dimensions

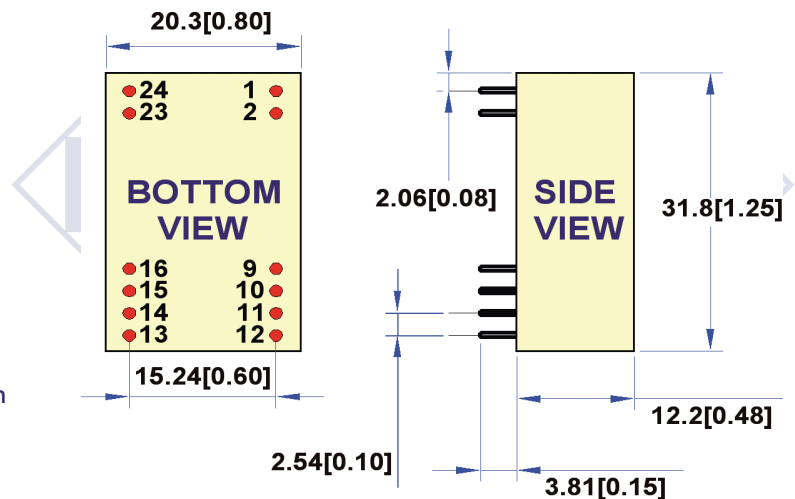
### Package T

PIN	Triple
1 & 2	-Vin
23 & 24	+Vin
9 & 16	-Vout(Out3)
10 & 15	Common
11 & 14	+5V/300mA(Out1)
12 & 13	+Vout(Out2)

All dimensions are in mm (inches)

Note: Pin Size is Tolerance  $0.6_{-} \pm 0.05\text{mm}$

Tolerance .X or .XX =  $\pm 0.5\text{mm}$

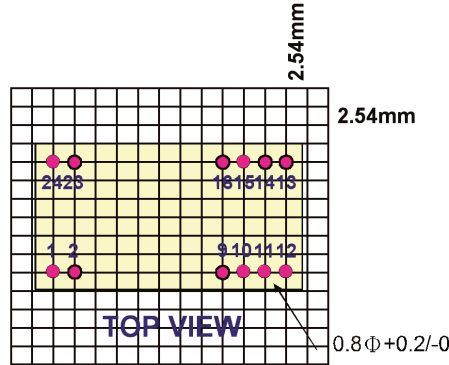


Footnotes: <sup>1</sup> Nominal Input Voltage

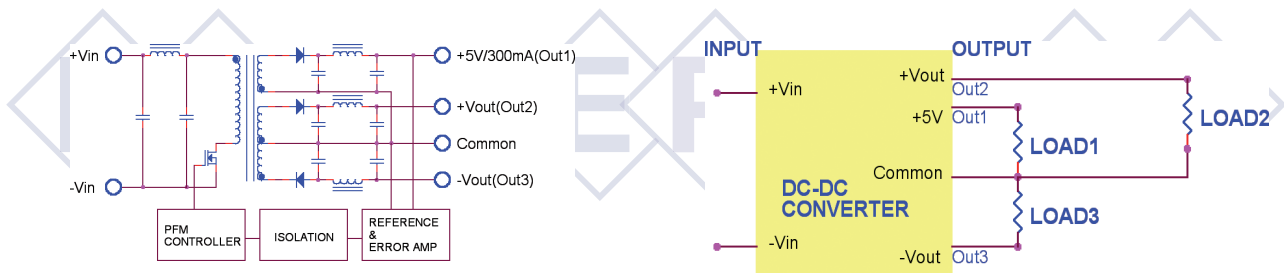
<sup>2</sup> Nominal Input Voltage, Full Load

## Recommended Footprint Details

Package T

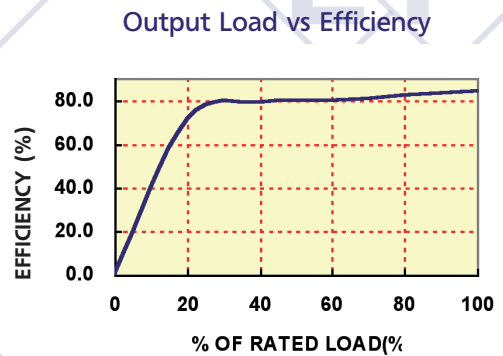
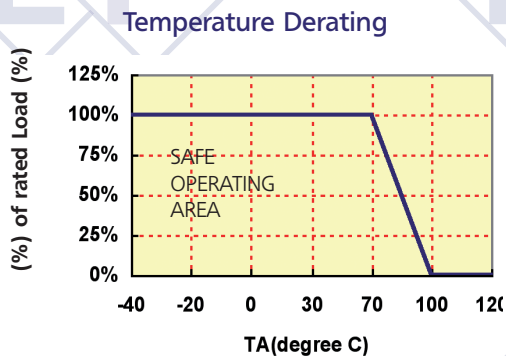


## Simplified Schematic & Typical Applications



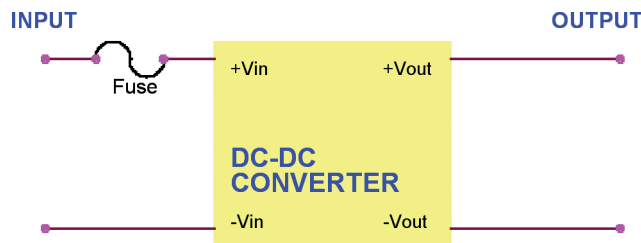
## Typical Performance Curves

Specifications typical at  $t_a=25$  OC, nominal input voltage, rated output current unless otherwise specified.



## Input Fuse Selection Guide

4.5-6.0V or 4.5-9V Input Voltage(VDC)	9-18V or 9-36V Input Voltage(VDC)	18-36V or 18-72V Input Voltage(VDC)	36-72V Input Voltage(VDC)
3000mA Slow- Blow Type	1500mA Slow- Blow Type	800mA Slow- Blow Type	400mA Slow- Blow Type



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

## EP Series Application Notes

### External Capacitance Requirements:

No external capacitance is required for operation of the EP 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 1000uF.

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 jederzeit ohne Vorankündigung geändert werden./Subject to change without notice.