

EP Series -90-100W Wide Input Range DC-DC Converter

Features

90W-100W DIL PACKAGE
 INDUSTRY STANDARD PACKAGE
 18V-36V,36V-75V WIDE INPUT RANGE
 100% BURN IN
 UL94V-0 PACKAGE MATERIAL
 CUSTOM SOLUTIONS AVAILABLE



Specification

Output Specification

Voltage Setpoint Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹	150mVp-p max.
Line Regulation ²	+/-0.5% max.
Load Regulation ³	+/-0.5% max.
Minimum load	10% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
External Trim Adj. Range	+/-10%
Over Load Protection	150% typ.
Transient Response ⁴	500uS max.

Input Specification

Input Voltage Range	2:1
Input Filter	Pi Network
Protection	Fuse Recommended
OVLO(Over Voltage Lockout)	See Page 3
UVLO(Under Voltage Lockout)	See Page 3
OVLO & UVLO Circuit Restart	Automatic
Remote ON/OFF Control	Table 1
Operating Temperature	-40°C to +55°C (with derating)
Case Temperature	+110°C max.
Storage Temperature	-55°C to +110°C
Humidity	95% max.
Cooling	Free-Air Convection

Environmental Specifications

General Specifications

Efficiency	92% typ.
Isolation Voltage ⁵	1500 VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	2500pF max.
Switching Frequency	250KHz typ.
Weight	67g typ.
Case Material	Six-Side Shielded Case
Case Size	50.8mm*50.8mm*11mm
Potting Material	Epoxy(UL94V-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

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

² High Line to Low Line

³ Load Regulation is for output load current change from 10% to 100%.

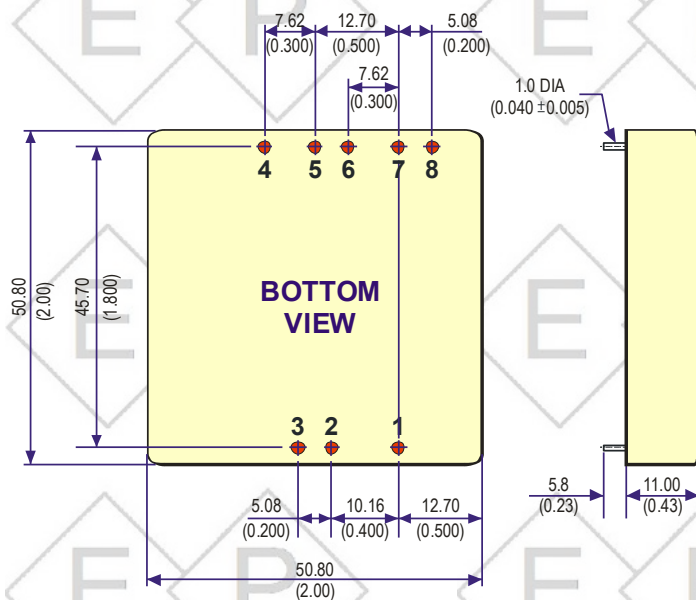
⁴ 50% Step Load Change

⁵ For 10 seconds

Selection Guide 2:1 100W Output

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁶ CURRENT(mA)		EFF (%) ⁷	CAPACITOR LOAD (Max)
				FULL LOAD	NO LOAD		
EP1002405	18-36	5	18000	4076	100	92	1000uF
EP1002412	18-36	12	8333	4529	100	92	220uF
EP1002415	18-36	15	6666	4529	100	92	100uF
EP1004805	36-75	5	18000	2038	50	92	1000uF
EP1004812	36-75	12	8333	2264	50	92	220uF
EP1004815	36-75	15	6666	2264	50	92	100uF

Mechanical Dimensions



All dimensions in mm(inches).

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

NOTE: Pin Size is Tolerance
1.0Φ ± 0.10mm
All Dimensions In mm(Inches)
Tolerance .X or .XX= ± 0.5mm

⁶ NOMINAL INPUT VOLTAGE.

⁷ NOMINAL INPUT VOLTAGE, FULL LOAD.

Recommended Footprint Details

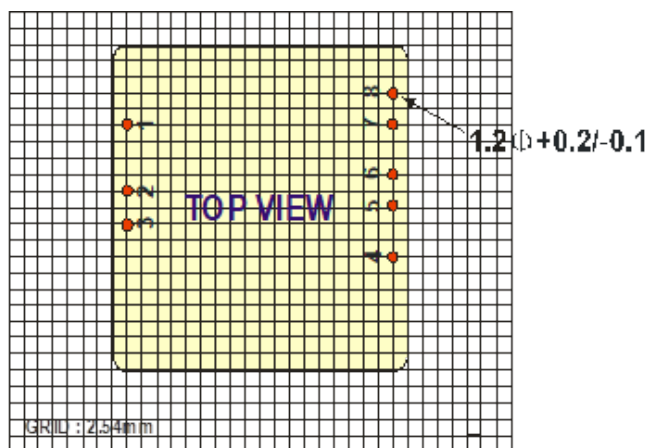
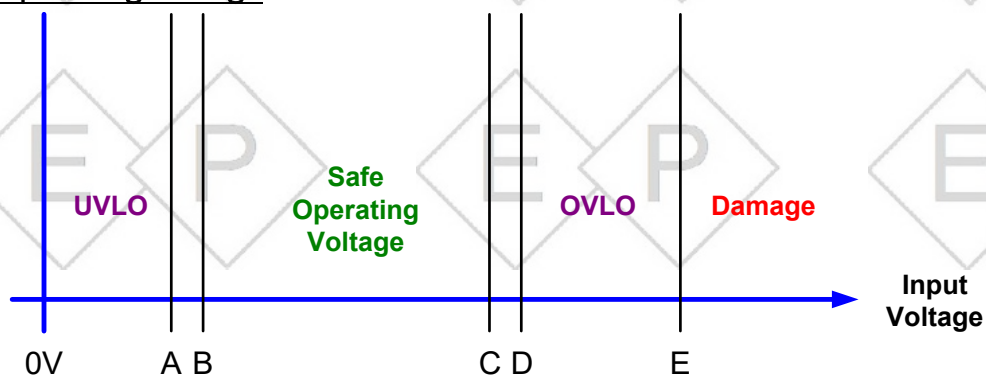


Table 1 (Remote On/Off Control)

Remote On/Off Control			
Control Input	PIN1	Control Common	PIN2
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open
OFF	<+0.9VDC or Jumper to PIN2		Collector TTL

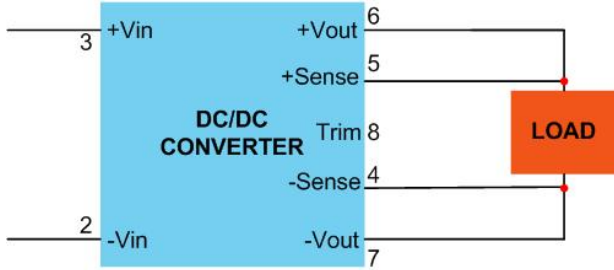
Input Operating Voltage



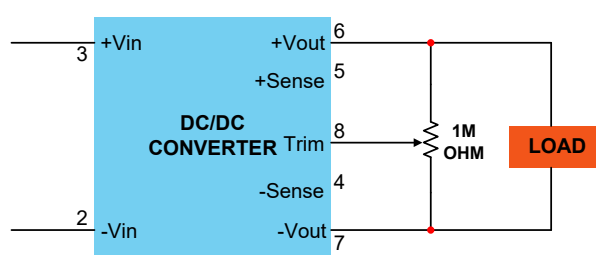
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
EP10024**	16V typ.	18V	36V	40V typ.	50V
EP10048**	34V typ.	36V	75V	80V typ.	100V

Typical Applications

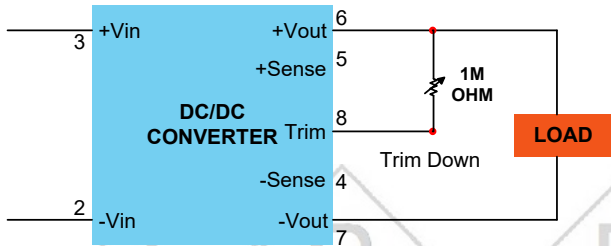
FIXED VOLTAGE OUTPUT



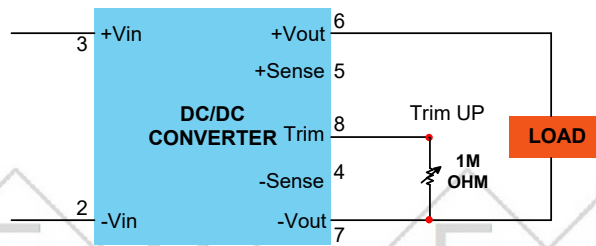
TRIM CONNECTIONS USING A TRIMPOT



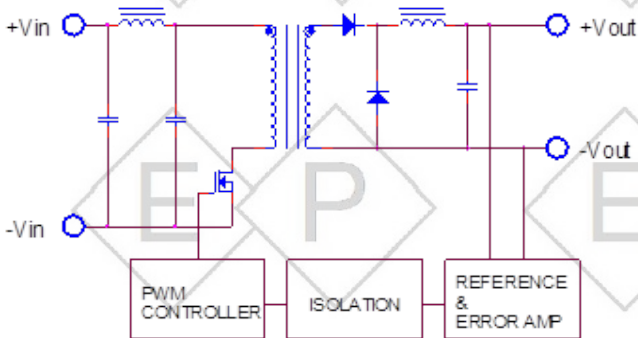
FIXED-VALUE TRIM DOWN RESISTOR



FIXED-VALUE TRIM UP RESISTOR



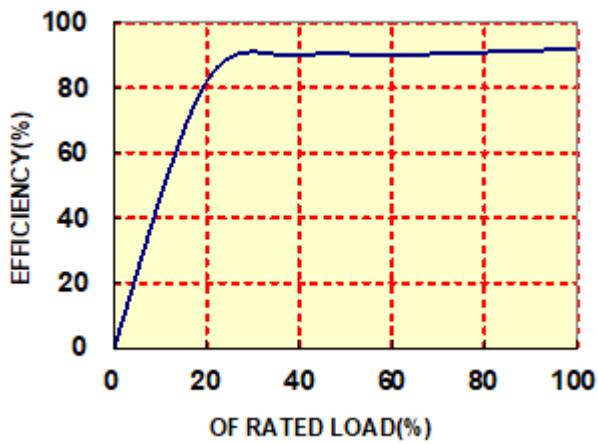
Simplified Schematic



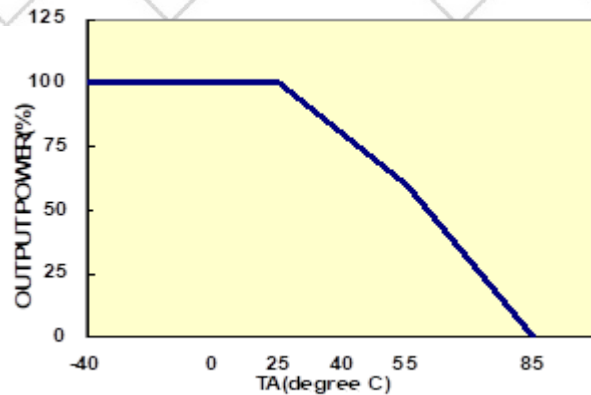
Typical Performance Curves

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

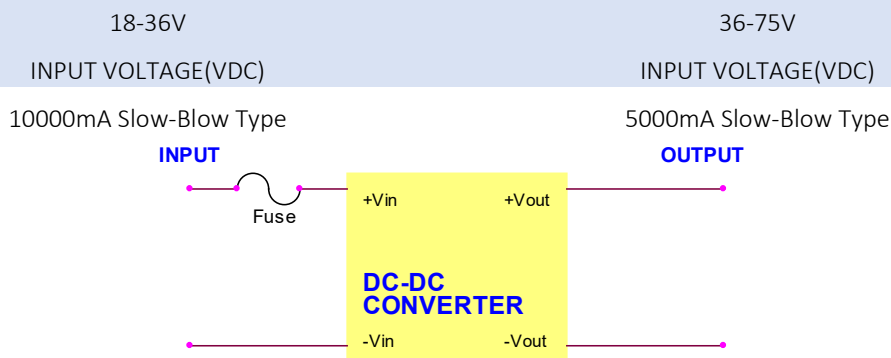
OUTPUT LOAD VS EFFICIENCY



TEMPERATURE DERATING



Input Fuse Selection Guide



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

EP 100W Series Application Notes:

EXTERNAL CAPACITANCE REQUIREMENTS:

External output capacitance is not required for operation, however it is recommended that 10uF MLCC 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.

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.

Remote ON/OFF:

The remote ON/OFF pin may be left floating if this function is not use. It is recommended to drive this pin with an open collector arrangement or a relay contact. When the ON/OFF pin is pulled low with respect to the -Vin , the converter is placed in a low power drain state.

Output TRIM:

The TRIM pin may be used to adjust the output +/-10% from the nominal setting .this function allows adjustment for voltage drops in the system wiring. If the TRIM function is not required the pin may be left floating.

Spezifikationen können sich ohne Vorankündigung ändern.

Für etwaige fehlerhafte Angaben oder unvollständige Bezeichnungen kann keine Haftung übernommen werden.