

EP Series 60W Wide Input Range DC-DC Converter

Features

60W 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
Case Temperature	+110°C max.
Storage Temperature	-55°C to +110°C
Humidity	95% max.
Cooling	Free-Air Convection

Environmental Specifications

General Specifications

Efficiency	91% typ.
Isolation Voltage ⁵	1500 VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	2500pF max.
Switching Frequency	250KHz typ.
Weight	86g typ.
Case Material	Six-Side Shielded Case
Case Size	50.8mm*50.8mm*16mm
Potting Material	Epoxy(UL94V-0)
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%.

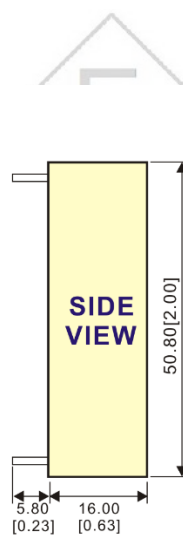
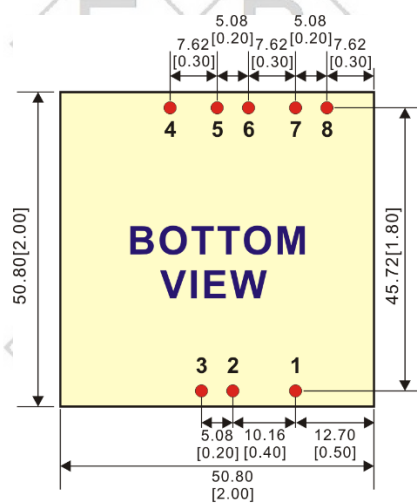
⁴ 50% Step Load Change

⁵ For 10 seconds

Selection Guide 2:1 60W 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		
EP6024D12	18-36	+/-12	+/-2500	2777	30	90	+/-220uF
EP6024D15	18-36	+/-15	+/-2000	2777	30	90	+/-100uF
EP6048D12	36-75	+/-12	+/-2500	1373	20	91	+/-220uF
EP6048D15	36-75	+/-15	+/-2000	1373	20	91	+/-100uF

Mechanical Dimensions

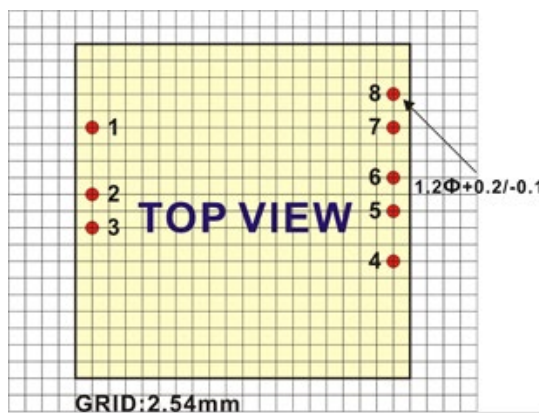


PIN	DUAL
1	Remote On/Off
2	-Vin
3	+Vin
4	+Vout
5	Common
6	Common
7	-Vout
8	Trim

NOTE:
 All dimensions are in millimeters [inches]
 Pin Size is Tolerance 1.0Φ ±0.10mm
 Tolerance .X or .XX= ±0.8mm

All dimensions are in millimeters [inches]

Recommended Footprint Details



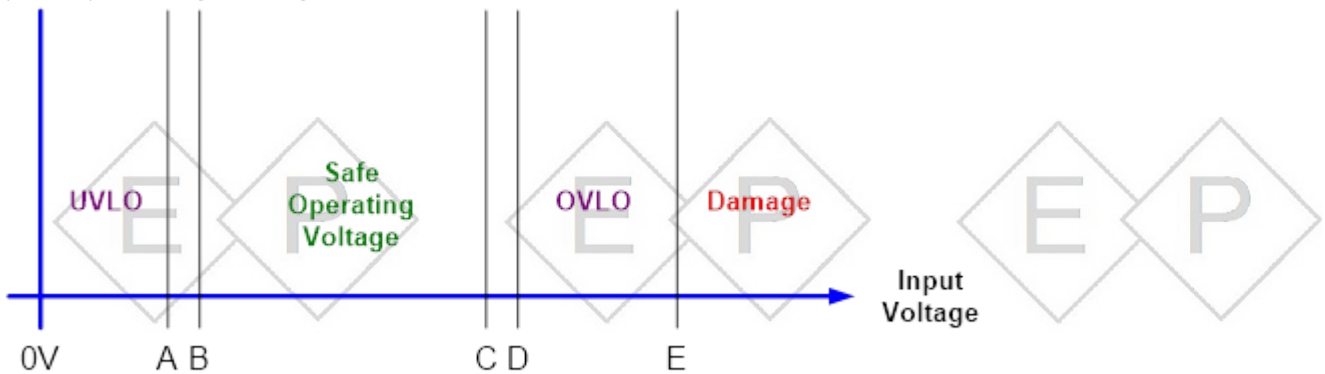
⁶ NOMINAL INPUT VOLTAGE.

⁷ NOMINAL INPUT VOLTAGE, FULL LOAD.

Table 1 (Remote On/Off Control)

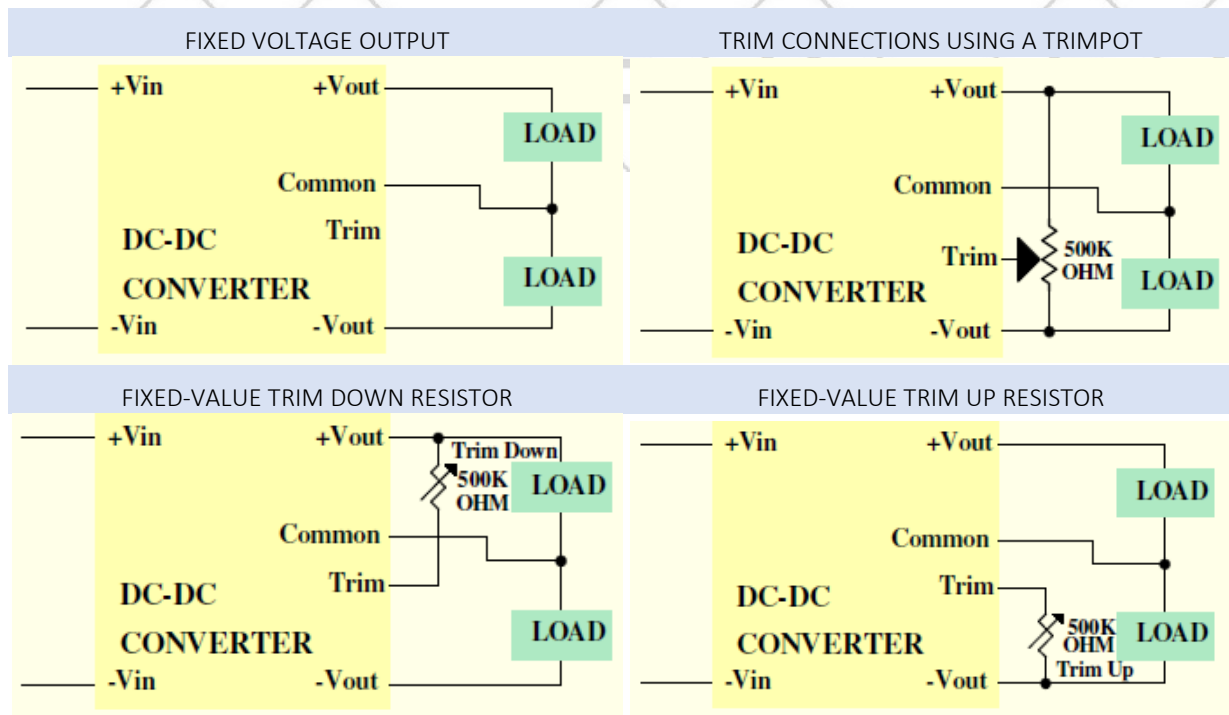
Remote On/Off Control			
Control Input	PIN1	Control Common	PIN2
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open
OFF	<+0.9VDC or Jumper to PIN2		Collector TTL

Input Operating Voltage

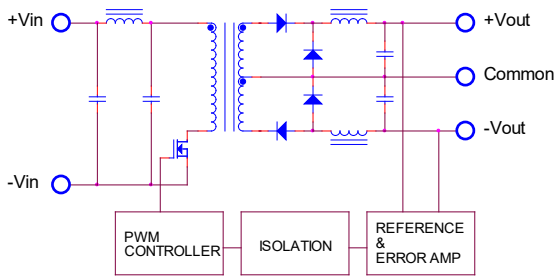


	A	B	C	D	E
EP6024***	16V typ.	18V	36V	40V typ.	50V
EP6048***	34V typ.	36V	75V	80V typ.	100V

Typical Applications



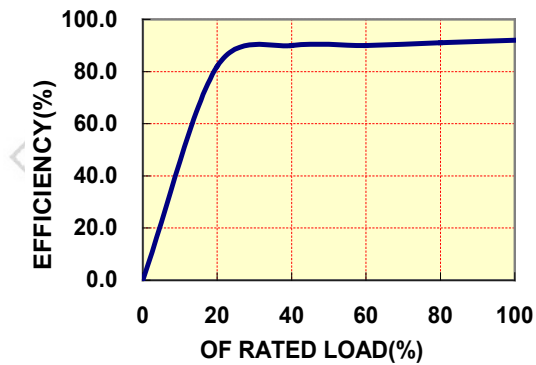
Simplified Schematic



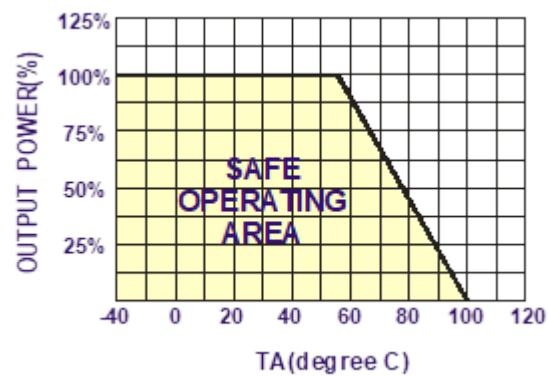
Typical Performance Curves

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

18-36V

INPUT VOLTAGE(VDC)

7000mA Slow-Blow Type

INPUT



Fuse

DC-DC
CONVERTER

+Vin

+Vout

-Vin

-Vout

36-75V

INPUT VOLTAGE(VDC)

3000mA Slow-Blow Type

OUTPUT

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

EP 60W 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.

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.