



MODEL SELECTION

Model Name	Vin(Vdc)	Vout(Vdc)	Io(Amps)	Watts
EPT-3.3SC48-A	36-75	3.3	6.5	21.45
EPB-3.3SC48-A	36-75	3.3	10	33
EPC-3.3SC48-A	36-75	3.3	15	49.5
EPD-3.3SC48-A	36-75	3.3	20	66
EPE-3.3SC48-A	36-75	3.3	30	99
EPO-3.3SC48-A	36-75	3.3	40	132
EPP-3.3SC48-A	36-75	3.3	45	149

FEATURES

- ▶ High Power Density - Up to 61W/in³
- ▶ Constant Frequency - 370kHz
- ▶ -40 to +85°C Operation
- ▶ 105°C Over Temperature
- ▶ High Efficiency
- ▶ Low Output Noise
- ▶ Industry-Standard Pinout
- ▶ Metal Baseplate
- ▶ 2:1 Input Voltage Range
- ▶ Thermal Protection (66W and 99W only)
- ▶ Over Voltage Protection
- ▶ Current Limit/Short Circuit Protection
- ▶ Adjustable Output Voltage: 60% to 110% of V_{0,set}
- ▶ Remote Sense
- ▶ Logic ON/OFF
- ▶ Safety Agency Approval

SPECIAL FEATURES

- ▶ Long Lead(0.23in)-LL
- ▶ Negative Logic Control-Neg.
(Remote Control For C-T)
- ▶ Threaded hole standoff-Td



Size: 60.70mm x 57.91mm x 13.30mm
(2.39in. x 2.28in. x 0.52in.)

SPECIFICATION

ABSOLUTE MAXIMUM RATINGS:

Exceeding absolute maximum ratings may cause permanent damage and reduce reliability

PARAMETER	MIN	MAX	UNITS	CONDITIONS
Input Voltage		80	Vdc	Continuous
Transient Input Voltage		100	Vdc	100 msec max.
Input/Output Isolation		1500	Vdc	
Operating Case Temperature	-40	100	°C	
Storage Temperature	-40	110	°C	

INPUT SPECIFICATIONS:

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
Operation Input Voltage (V _i)	36	48	75	V	
Maximum Input Current (I _{i,max}):					V _i = 0Vdc to 75Vdc I _o = I _{o,max}
EPT-3.3SC48-A			1.6	A	
EPB-3.3SC48-A			1.5	A	
EPC-3.3SC48-A			2.3	A	
EPD-3.3SC48-A			3.0	A	
EPE-3.3SC48-A			4.0	A	
EPO-3.3SC48-A			5.8	A	
EPP-3.3SC48-A			6.5	A	

OUTPUT SPECIFICATIONS:

Output Voltage Set Point ($V_{o,set}$)	3.25	3.30	2.55	V	$T_c=25^\circ\text{C}$, $V_i=48\text{V}$, $I_o=I_{o,max}$
Line Regulation		0.01	0.1	%	$V_i=36\text{V to }75\text{V}$
Load Regulation		0.05	0.2	%	$I_o=0.5\text{A to }I_{o,max}$
Temperature Drift		15	50	mV	$T_c=-40^\circ\text{C to }100^\circ\text{C}$
Total Regulation			1.3	%	
Output Ripple and Noise Voltage:					5Hz to 20MHz
RMS			40	mVrms	
Peak to Peak			150	mV _{p-p}	
External Load Capacitance	0		10,000	uF	Electrolytic capacitor
Output Current(I_o):					At $I_o < 0.5\text{A}$, the modules may exceed output ripple specifications
EPT-3.3SC48-A	0.5		6.5	A	
EPB-3.3SC48-A	0.5		10	A	
EPC-3.3SC48-A	0.5		15	A	
EPD-3.3SC48-A	0.5		20	A	
EPE-3.3SC48-A	0.5		30	A	
EPO-3.3SC48-A	0.5		40	A	
EPP-3.3SC48-A	0.5		45	A	
Output Current limit::					$V_o=90\%$ of $V_{o,set}$
EPT-3.3SC48-A		7.5	8.5	A	
EPB-3.3SC48-A		12.0	14.0	A	
EPC-3.3SC48-A		18.0	21.0	A	
EPD-3.3SC48-A		23.0	27.0	A	
EPE-3.3SC48-A		34.5	40.5	A	
EPO-3.3SC48-A		48	52	A	
EPP-3.3SC48-A		50.0	59.2	A	
Output Short Circuit Current			170	% $I_{o,max}$	$V_o=250\text{mV}$
Switching Frequency		370		kHz	
Efficiency:					$T_c=70^\circ\text{C}$ $V_i=48\text{V}$ $I_o=I_{o,max}$
EPT-3.3SC48-A	76	79		%	
EPB-3.3SC48-A	78	81		%	
EPC-3.3SC48-A	78	81		%	
EPD-3.3SC48-A	78	80		%	
EPE-3.3SC48-A	78	80		%	
EPO-3.3SC48-A	76	79		%	
EPP-3.3SC48-A	75	78		%	
Dynamic Response:					25%-50%-75% load 0.1A/ μs $T_c=25^\circ\text{C}$ $V_i=48\text{V}$
Peak Deviation		3		% $V_{o,set}$	
Settling Time			300	μs	

CONTROL SPECIFICATIONS:

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
Logic On/Off:					
Logic Low: Ion/off			1	mA	$V_{on/off}=0\text{V}$
Von/off			1.2	V	$I_{on/off}<1\text{mA}$
Logic High: Ion/off			50	μA	$V_{on/off}=15\text{V}$
Von/of			15	V	$I_{on/off}=0.0\ \mu\text{A}$
Turn-On Time		8	25	ms	$I_o=80\%$ of $I_{o,max}$ V_o with +/- 1% $V_{o,set}$
Output Remote Sense Range			0.5	V	
Output Voltage Trim Range	80		110	% $V_{o,set}$	
Over Voltage Protection	3.0		4.0	V	Auto recovery
Over Temperature Protection		105		$^\circ\text{C}$	Auto recovery (66W and 99W only)

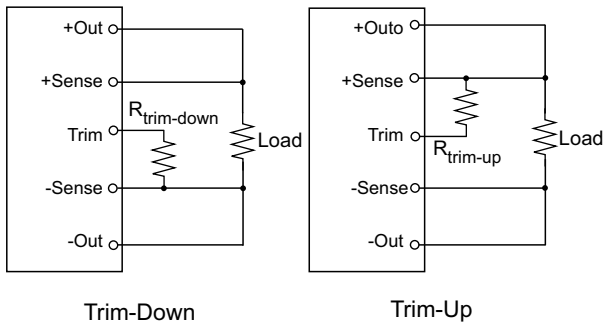
ISOLATION SPECIFICATIONS:

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
Input to Output		1500		Vdc	
Input to Case		1500		Vdc	
Output to Case		500		Vdc	
Input to Output Capacity		2000		pF	
Isolation Resistance	10			Mohm	

GENERAL SPECIFICATIONS:

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
MTBF		1.3		Mhrs	Tc=40°C, Io =80% of Io,max
Weight		118		g	
Size		2.39x2.28x0.52		in ³	

TRIM CIRCUIT



Trim-Down

Trim-Up

$$R_{trim-down} = ((100/\Delta\%) - 2) \text{ Kohms}$$

$$R_{trim-up} = \left(\frac{V_o(100 + \Delta\%)}{1.225\Delta\%} - \frac{100 + 2\Delta\%}{\Delta\%} \right) \text{ Kohms}$$

$\Delta\%$ = Desired Output Voltage Change

V_o = Output Voltage

$R_{trim-up}$ = External Resistor Value to Increase V_o

$R_{trim-down}$ = External Resistor Value to Decrease V_o

OUTLINE DRAWING

