



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

MODEL SELECTION

Model Name	Vin(Vdc)	Vout(Vdc)	Io(Amps)	Watts
EPT-05SC48-A	36-75	5	6	30
EPB-05SC48-A	36-75	5	10	50
EPC-05SC48-A	36-75	5	15	75
EPD-05SC48-A	36-75	5	20	100
EPE-05SC48-A*	36-75	5	30	150
EPO-05SC48-A	36-75	5	40	200

FEATURES

- ▶ High Power Density - Up to 82W/in³
- ▶ Constant Frequency - 370kHz
- ▶ -40 to +100°C Operation
- ▶ 105°C Over Temperature
- ▶ High Efficiency
- ▶ Low Output Noise
- ▶ Industry-Standard Pinout
- ▶ Metal Baseplate
- ▶ 2:1 Input Voltage Range
- ▶ Thermal Protection(100W and up 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

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

SPECIFICATION

ABSOLUTE MAXIMUM RATINGS:

Exceeding absolute maximum ratings may cause permanent damage and reduce reliability

Parameter	Min	Typ	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}):			1.6	A	V _i = 0Vdc to 75Vdc
EPT-05SC48-A			2.5	A	I _o = I _{o,max}
EPB-05SC48-A			3.5	A	
EPC-05SC48-A			4.0	A	
EPD-05SC48-A			6.5	A	
EPE-05SC48-A			8.5	A	
EPO-05SC48-A			1.0	A	
Inrush Transient				A ² t	
Input Reflected-Ripple Current:		5		mAp-p	5Hz~20MHz, 12uH
Peak to Peak		60		dB	Source Impedance
Input Ripple Rejection					@ 120Hz

OUTPUT SPECIFICATIONS:

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
Output Voltage Set Point ($V_{o,set}$)	4.92	5.00	5.08	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		330	uF	Electrolytic capacitor
Output Current (I_o):					At $I_o < I_{o,min}$, the modules may exceed output ripple specifications
EPT-05SC48-A	0.5		6	A	
EPT-05SC48-A	0.5		10	A	
EPT-05SC48-A	0.5		12	A	
EPT-05SC48-A	0.5		15	A	
EPT-05SC48-A	0.5		20	A	
EPT-05SC48-A	0.5		30	A	
EPT-05SC48-A	0.5		40	A	
Output Current limit::					$V_o=90\%$ of $V_{o,set}$
EPT-05SC48-A		7.5	8.5	A	
EPT-05SC48-A		12.0	14.0	A	
EPT-05SC48-A		14.4	16.8	A	
EPT-05SC48-A		18.0	21.0	A	
EPT-05SC48-A		23.0	26.0	A	
EPT-05SC48-A		34.5	39.0	A	
EPT-05SC48-A		44.0	52.0	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-05SC48-A	80	82		%	
EPT-05SC48-A	82	84		%	
EPT-05SC48-A	82	84		%	
EPT-05SC48-A	82	85		%	
EPT-05SC48-A	82	85		%	
EPT-05SC48-A	82	84		%	
EPT-05SC48-A	81	82		%	
Dynamic Response:					25%-50%-75% load 0.1A/ s $T_c=25^\circ\text{C}$ $V_i=48\text{V}$
Peak Deviation		3		% $V_{o,set}$	
Settling Time			300	s	

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		15	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	60		110	% $V_{o,set}$	
Over Voltage Protection	5.9		7.0	V	Auto recovery
Over Temperature Protection		105		$^\circ\text{C}$	Auto recovery (100W, 150W and 200W only)

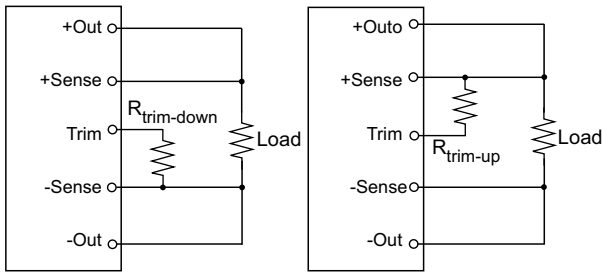
ISOLATION SPECIFICATIONS:

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		1.4		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

