

Non-Isolated DC-DC Converters

RoHS

- ◆ Industry Standard Package and Pin Out
- ◆ No External Capacitors Needed
- ◆ Full Power at 85°C Convection Cooled
- ◆ Low Voltage Outputs to 0.9V
- ◆ Output Currents up to 10A
- ◆ 5V & 12V Inputs
- ◆ Wide Output Voltage Adjustment
- ◆ Remote Sense (Optional)

Key Market Segments & Applications

Distributed Power Architecture



Obsolete

PL Features and Benefits

Feature

- ◆ High Efficiency up to 97%
- ◆ Excellent transient response
- ◆ 0.9 - 5.0VDC Adjustment Range (12V C-version)
- ◆ Convection cooled, 85°C operation

Benefit

- ◆ Reduces input current draw
- ◆ No expensive external capacitors needed
- ◆ Stock one part for all voltages
- ◆ No derating needed

Specifications

MODELS		PL10S 05	PL10S12
ITEMS			
Input Voltage Range	(1) VDC	3 - 5.5VDC	5 - 13VDC
Turn on/off Threshold (typ)	VDC	On: 2.95V, Off 2.9V	On: 4.3V, Off 4.1V
Output Voltage Accuracy	%	±1	
Voltage Trim	-	Yes	
Ripple & Noise	mV	50mVp-p, 15mVrms Typical	
Line Regulation (typ)	mV	8mV	
Load Regulation (typ)	mV	15mV	
Transient Response	(2) -	100mV deviation, 50us settling time (typ) for 50-100% or 100%-50% load change	
Overcurrent Protection (OCP)	A	15A min	20A max
Overvoltage Protection (OVP)	-	N/A	
Remote Sense / Parallel	-	Optional - see Model Selector (Parallel uses external circuit)	
Remote On / Off	-	Low or Short = off, High or Open = On	
Operating Temperature	-	-40°C to +85°C	
Operating Humidity	-	20 - 95% Non condensing	
Storage Temperature	-	-65°C to +150°C	
Storage Humidity	-	10 - 95% Non condensing	
Cooling	-	Convection, or forced air	
Vibration (non operating)	-	10 - 55Hz (1 minute), amplitude 0.825mm (49m/s ² max), X, Y, Z 1 hour each	
Shock	-	196.1 m/s ²	
Safety Agency Approvals	-	UL1950, CSA950, EN60950	
Weight (Typ)	g	9	
Size (WxHxD)	mm(in)	9.4 x 50.8 x 12.7 (0.37 x 2 x 0.5)	
Switching Frequency (fixed)	kHz	230 - 340	200 (typical)
Warranty	-	2 Years	

Notes

- (1) Minimum input voltage = 3.3V at 2.5V output, 4.5V at 3.3V output
 (2) With 470uF external capacitor

See Installation Manual for full details, test methods of parameters and application notes

Model Number Scheme

PL	10 Max. Output Current	S Single Output	12 Nominal Input Voltage	C (*)	T T=No remote sense TR=(+) and (-) Remote sense pin TP= (+) Remote sense pin
* C=Customer selectable output voltage or requested factory set voltage. e.g. (0V9=0.9V)					
Sample Model Number: PL10S-12-C-TR					

Models

Model	Output Voltage	Max Out. Cur. (A)	Max Out. Pwr (W)	Max In. Cur. (A)	Full Load Eff.
PL10S-05-C-T	Selectable	10	33	-	-
PL10S-05-0V9-T	0.9	10	9	3.7	83%
PL10S-05-1V0-T	1.0	10	10	4.0	84%
PL10S-05-1V2-T	1.2	10	12	4.7	86%
PL10S-05-1V5-T	1.5	10	15	5.8	89%
PL10S-05-1V8-T	1.8	10	18	6.7	90%
PL10S-05-2V0-T	2.0	10	20	7.3	91%
PL10S-05-2V5-T	2.5	10	25	9.1	93%
PL10S-05-3V3-T	3.3	10	33	7.7	95%
PL10S-12-C-T	Selectable	10	33	-	-
PL10S-12-0V9-T	0.9	10	9	2.2	85%
PL10S-12-1V0-T	1.0	10	10	2.4	86%
PL10S-12-1V2-T	1.2	10	12	2.8	88%
PL10S-12-1V5-T	1.5	10	15	3.5	90%
PL10S-12-1V8-T	1.8	10	18	4.1	92%
PL10S-12-2V0-T	2.0	10	20	4.5	93%
PL10S-12-2V5-T	2.5	10	25	5.5	94%
PL10S-12-3V3-T	3.3	10	33	7.0	95%
PL10S-12-5V0-T	5.0	10	50	7.5	97%

Other Lambda DC-DC Products

X	10, 15, & 20W 24V & 48VDC Input DC-DC converters
SX	20W surface mount 24V & 48VDC-DC
PAE	Up to 65W, up to 25A Eighth brick DC-DC
PAQ	Up to 100W Quarter brick DC-DC, single & dual outputs
PAH, PAH200H	Up to 350W, up to 70A Half brick DC-DC, single & dual outputs
PAF	500, 600 and 700W Full brick DC-DC

For Additional Information, please visit
www.lambdapower.com/products/pl-series.htm

Pinout

PIN	T Version	TR Version	TP Version
1	Vout	Vout	Vout
2	Vout	Vout	Vout
3	Vout	Vout	+RS
4	GND	GND	Vout
5	GND	+RS	GND
6	Vin	-RS	GND
7	Vin	GND	Vin
8	Trim	Vin	Vin
9	On / Off	Vin	Trim
10	-	Trim	On/Off
11	-	On / Off	-

Outline Drawing

