



## High Density DC/DC Converter Specifications

- ◆ 20W in a 1" x 2" industry standard package
- ◆ Output turn-on time within < 10ms
- ◆ Low voltage outputs from 1.8V
- ◆ Meets conducted EMI Level B performance with external filtering
- ◆ High current low voltage models

### Key Market Segments & Applications

Central Office:	ATM, Sonet, DSL, ISDN, Frame relay
Broadband:	Switching Equipment, Routers
Wireless/Cellular:	Micro Cells (larger in size/10 sq. mi.) Pico Cells (smaller in size/1 to 2 sq. mi.)
Remote Electronics:	Fixed Local Loop, Fiber Optic Transmission, Microwave Transmission, Wireless Local Loop
Customer Premise:	PBX, PABX, Datacomm, Voice Systems, Video Conferencing

## X Features and Benefits

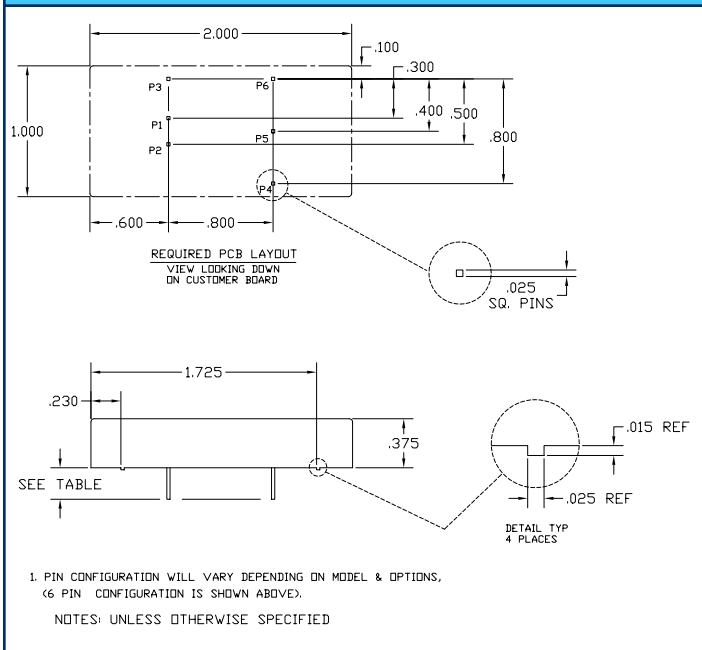
Feature	Benefit
◆ 20 Watts in 1" x 2" industry standard	◆ Higher power density (less board space)
◆ 10ms turn on time (Enable)	◆ Support live insertion requirements
◆ Both 24V and 48V inputs available	◆ One source for wireless & central office applications
◆ Global safety agency approval UL, CSA, CE, TUV	◆ Supports worldwide use, lowers risk to end user

## Specifications

MODEL		X20-24S1.8	X20-24S2.5	X20-24S03	X20-24S05
ITEMS		X20-48S1.8	X20-48S2.5	X20-48S03	X20-48S05
Nominal Output Voltage	V	1.8	2.5	3.3	5.0
Rated Output Current	A	7.0	6.0	5.5	4.0
Rated Output Power	W	12.6	15.0	18.0	20.0
Efficiency (Typ.)	%	74	74	84	86
Input Voltage Range	-	18-36VDC (24V models); 36-75VDC (48V models)			
Input Current (Typ.) (*1)	A	0.71 / 0.36	0.85 / 0.42	0.90 / 0.45	0.97 / 0.49
Switching Frequency	-	200 kHz, all models			
Output Voltage Adjustment	V	Adjustable $\pm 10\%$			
Over Temperature Protection	-	Self Recovering			
Max Ripple & Noise	mVpp	100			
Max Line Regulation	mV	5			
Max Load Regulation	mV	15	15	15	15
Over Voltage Protection	-	3.5Vmax	4.0Vmax	5.7Vmax	7.0Vmax
Overload/Short Circuit	-	Continuous, Self Recovering			
Remote ON/OFF Control	-	Both logic high/low options available, TTL compatible 1mA sink current			
Isolation (input to output)	-	1500VDC			
Conducted EMI	-	EN55022 Level B, FCC Level B, ANSI63.12-1987 w/ external filter			
Operating Temperature	-	-40°C to 105°C (case)			
Cooling	-	Convection cooling allows full output ratings			
Dynamic Load Response	-	100mV deviation (1.8V-5V), 0.4ms settling for a 25% step load change			
Undervoltage Lockout	-	24V input, 11V min, 14V typical; 48V input, 20V min, 27V typical			
Regulatory Agency Compliance	-	UL1950, Third Edition CSA 22.2 No. 950-95, EN60950, CE mark			
Vibration	-	2.5G RMS, 10Hz-500Hz sweep vibration, 1 Hr. per axis			
Shock	-	70G/6msec. half sine, 3 shocks x 6 sides = 18 total			
Weight (Typ.)	g	28.3			
Size (W x H x D)	in	2" x 1" x 0.4"			

\*1 Vin (nom). First value applies to 24V input (Nom), second value to 48V input. (Nom)

## X Series Outline Drawings



## Pin Configuration

Pin	Function	Pin	Function
1	Vi(-)	4	Vo(+)
2	Vi(+)	5	TRIM (optional)*
3	ON/OFF (optional)*	6	Vo(-)

\* Pin is not present unless option is specified.

For Additional Information, please visit  
[www.lambdapower.com/products/x-series.htm](http://www.lambdapower.com/products/x-series.htm)

## Options

Suffix	Description
/T	Output voltage adjustment.
/N	Negative logic remote on/off.
/P	Positive logic remote on/off.
/2	Short pin: 2.8mm (0.11 inch).
/T2	Output voltage adjustment and short pin.
/N2	Negative logic remote on/off and short pin.
/P2	Positive logic remote on/off and short pin.
/NT	Negative logic remote on/off and output voltage adjustment.
/PT	Positive logic remote on/off and output voltage adjustment.
/NT2	Negative logic remote on/off, output voltage adjustment, and short pin.
/PT2	Positive logic remote on/off, output voltage adjustment, and short pin.

## X Series Model Number Example

