LAMBDA

X10 Series

High Density DC/DC Converter Specifications

- 10W 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

Key Market Segments & Applications

Central Office:	ATM, Sonet, DSL, ISDN, Frame relay
Broadband:	Switching Equipment, Routers
Wireless/Celluar:	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
◆ 10 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 application
◆ Global safety agency approval UL, CSA, CE, VDE	◆ Supports worldwide use, lowers risk to end user

Specifications

ITEMS \ MODEL		X10-24S03 X10-48S03	X10-24S05 X10-48S05	X10-24S12 X10-48S12	X10-24D12 X10-48D12
Nominal Output Voltage	V	3.3	5	12	±12
Max Output Current	A	2.42	2	.83	.42
Max Output Power	W	7.98	10	10	10
Efficiency (Typ.) (*1)	%	78 / 78	80 / 81	80 / 81	81 / 82
Input Voltage Range	-	18V-36V (24V models); 36V-75V (48V models)			
Input Current (Typ.) (*1)	A	0.43, 0.21	0.52, 0.26	0.52, 0.26	0.51, 0.25
Switching Frequency	-	265 KHz, all models			
Output Voltage Adjustment	V	Adjustable ±10%			Fixed
No Load Input Power	W	0.4 Watts			
Max Ripple & Noise	mVpp	100		120	150
Max Line Regulation	mV	5	5	5	12
Max Load Regulation	mV	10	10	24	24
Over Voltage Protection	-	5.7V max	7V max	16V max	±18V max
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). Derate linearly above +70°C to 0W at 105°C			
Cooling	-	Convection cooling allows full output ratings			
Dynamic Load Response	-	100mV deviation (3.3-5V), 240mV (12V), 0.8ms settling for a 25% step load change			
Undervoltage Lockout	-	24V input, 11V min, 14V typical; 48V input, 20V min, 27V typical			
Regulatory Agency Compliance	-	VDE 0805, UL1950, 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×H×D)	in	2" x 1" x 0.4"			

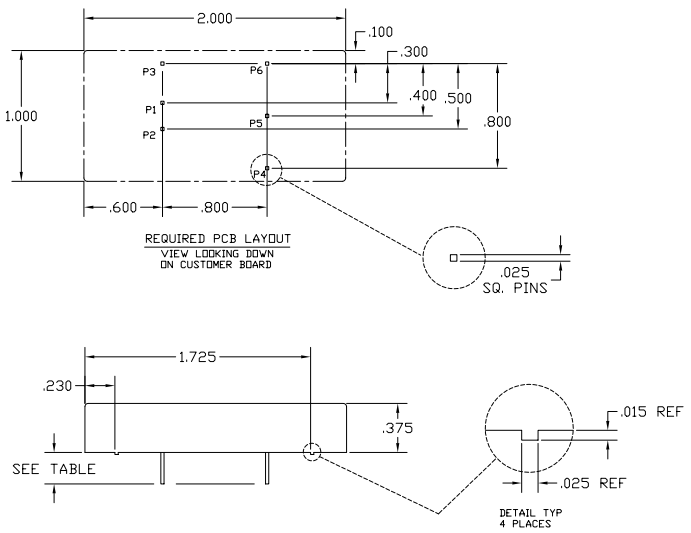
*1 CVin (nom). First value applies to 24V input (Nom), second value to 48V input. (Nom)

3055 Del Sol Blvd • San Diego, CA 92154 • 1-800-LAMBDA-4

LAMBDA

X10 Series

X Series Outline Drawings



1. PIN CONFIGURATION WILL VARY DEPENDING ON MODEL & OPTIONS, (6 PIN CONFIGURATION IS SHOWN ABOVE).

NOTES: UNLESS OTHERWISE SPECIFIED

SINGLE OUTPUT

PIN	PIN DESIGNATION
1	-VIN
2	+VIN
3	ON/OFF (OPTIONAL)
4	+VOUT
5	TRIM (OPTIONAL)
6	-VOUT

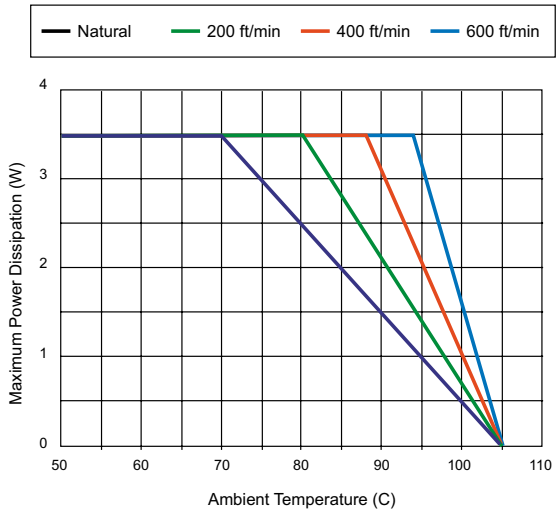
DUAL OUTPUT

PIN	PIN DESIGNATION
1	-VIN
2	+VIN
3	ON/OFF (OPTIONAL)
4	+VOUT
5	COMMON
6	-VOUT

PIN LENGTH

MODEL	LENGTH
STD.	.230 +.010
/2	.110 +.010

X10 Derating Curve

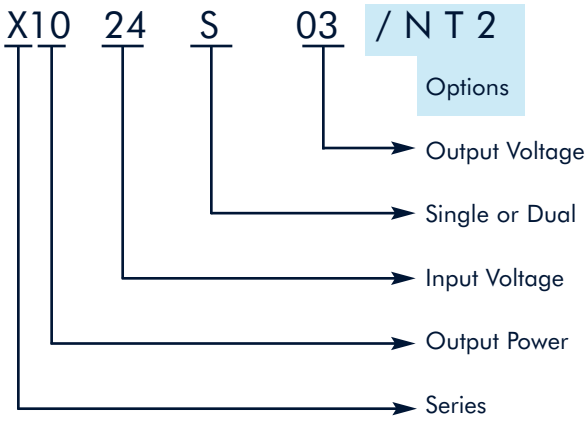


Note: X10-24S unit used as a standard curve.

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



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

3055 Del Sol Blvd • San Diego, CA 92154 • 1-800-LAMBDA-4

Revision A1: August 2001