## High Density DC/DC Converter Specifications

### Features

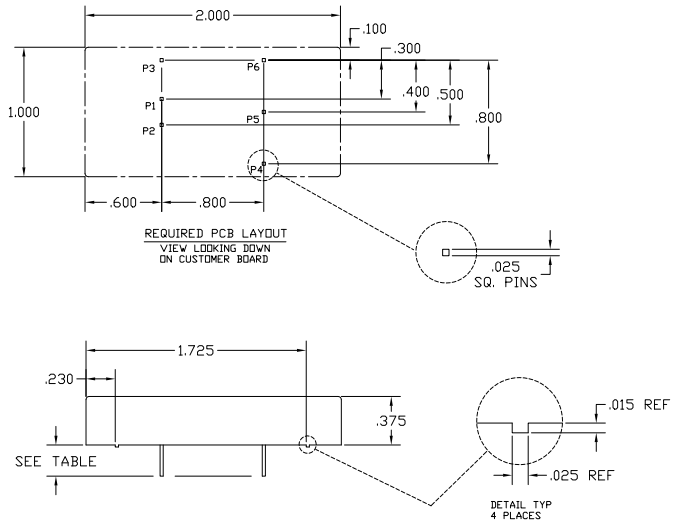
- ◆ 10W in a 1”x 2” industry standard package
- ◆ Output turn-on time within <10ms
- ◆ Low voltage outputs from 1.8V
- ◆ Meets conducted EMI Level B performance with external filtering
- ◆ 10ms turn on time (Enable)
- ◆ Both 24V and 48V inputs available
- ◆ Global safety agency approval UL, CSA, CE, VDE


### Specifications

| Model | | X10-24S03<br>X10-48S03 | X10-24S05<br>X10-48S05 | X10-24S12<br>X10-48S12 | X10-24D12<br>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)

## 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 |

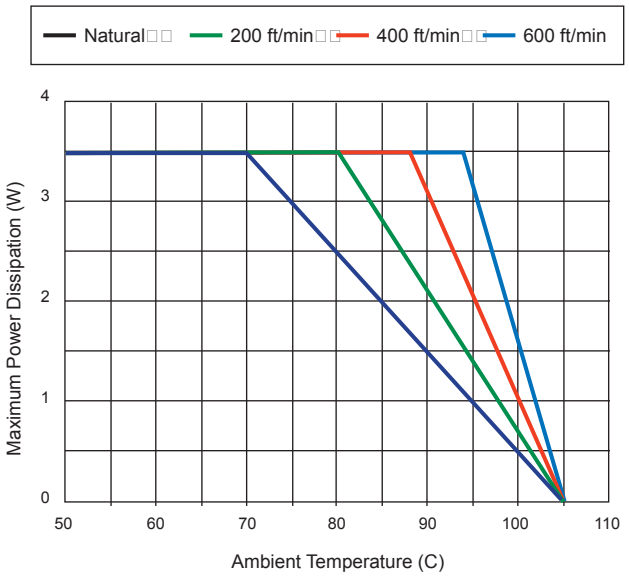
DUAL OUTPUT

| 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 |

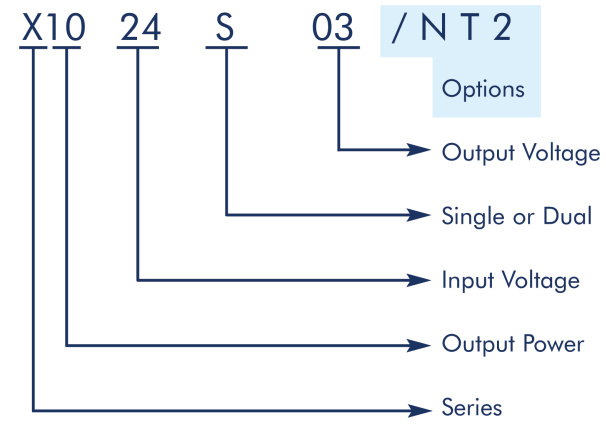
## X10 Derating Curve




## 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
us.tdk-lambda.com/lp/products/x-series.htm

OBSOLETE