

20-30W Single and Dual Output DC-DC Converters

Features

- ◆ Industry Standard 2" x 1.6" Footprint
- ◆ Six Sided Shielding
- ◆ Agency Approved
- ◆ 12V, 24V and 48V Inputs
- ◆ UL, CSA, EN, CE approvals
- ◆ Wide range input



Key Market Segments & Applications



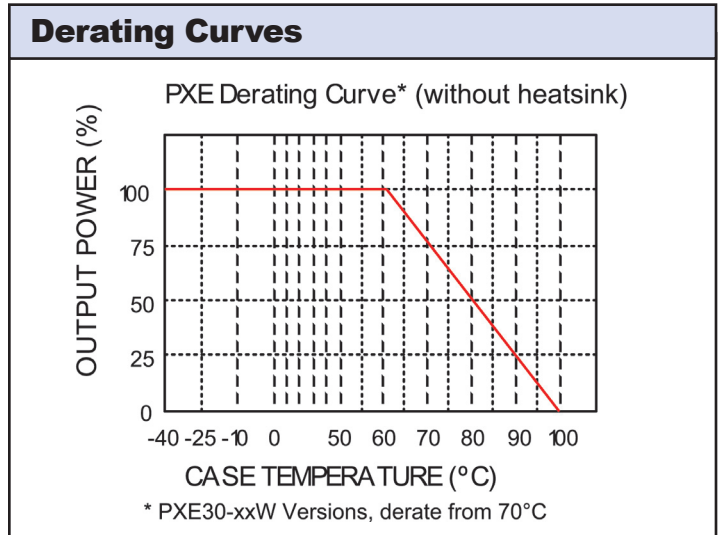
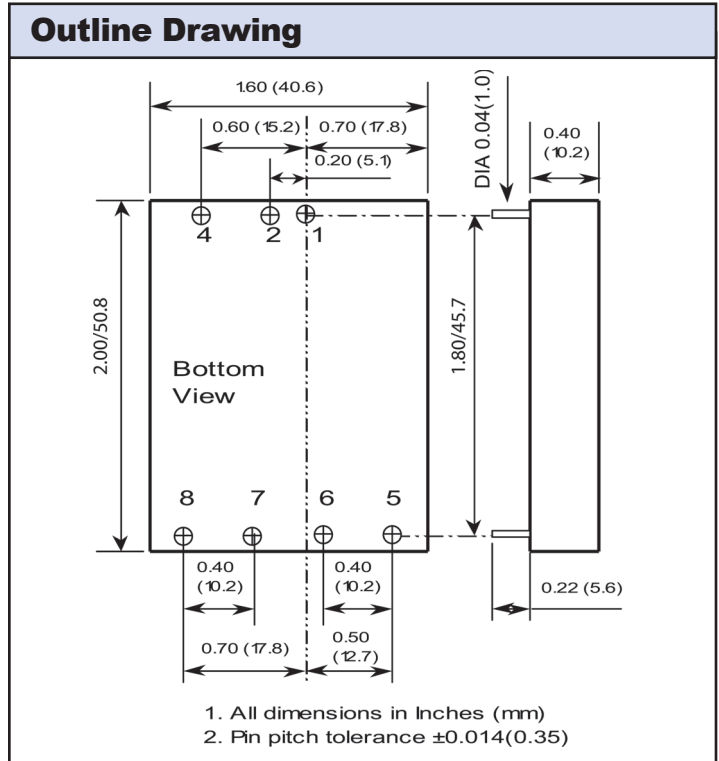
| Specifications | | |
|---|--|------------------------|
| Model | PXE20 | PXE30 |
| Max Output Power | 20W | 30W |
| Voltage Accuracy | ±2% | ±1% |
| Voltage Adjustment | ±10% | |
| Minimum Load, each output (1) | 10% | 10% |
| Line Regulation | ±0.2% for single, ±0.5% for dual | |
| Load Regulation (25% to 100%) | Single ±0.5%, Dual ±3% | Single ±0.5%, Dual ±1% |
| Cross Regulation (25% to 100%) | Dual ±5% | |
| Ripple and Noise (P-P) | Single: 75mV; Dual: 100mV | |
| Start up time | 20ms - 1100ms typ. | 10 - 25ms typ. |
| Remote on/off (3) | Positive Logic: ON: Open or 3.5-12V, OFF Short or <1.2V | |
| Temperature Coefficient | <±0.02%/°C | |
| Operating Temperature | -40 to +100°C, see derating curve | |
| Maximum Case Temperature | 100°C (Over temperature protection at 115°C - PXE30 model) | |
| Storage Temperature | -55 to 105°C | |
| Thermal Shock | MIL-STD-810D | |
| Relative Humidity (non condensing) | 5 to 95% | |
| Transient Response (25% step load change) | 500us recovery | 300us recovery |
| Overvoltage Protection (Zener clamp) | 3.3V: 3.9V, 5V: 6.2V, 12V: 15V, 15V: 18V | |
| Overcurrent and Short Circuit Protection | Typically at 150%, hiccup with self recovery | |
| Input Surge Voltage (Maximum for 100ms) | 12V input: 36V, 24V input: 50V, 48V input: 100V | |
| Reflected input ripple (peak to peak) (2) | 25mA | 30mA |
| Isolation Voltage | 1600VDC minimum (Input-Output, Input-Case) | |
| Isolation Resistance | 10 ⁹ Ohms minimum | |
| Isolation Capacitance (max) | 300pF | 1000pF |
| Typical Switching Frequency (Fixed) | 300kHz | |
| MTBF (BELLCORE TR-NWT-000332) | 1,976,000 hours | 1,535,000 hours |
| Vibration | 10 - 55Hz, 2G, 30 minutes each X, Y, Z axis | |
| Conducted and Radiated Emissions | See Installation Diagrams | |
| Immunity | EN61000-4-2, -3, -4, -5, -6 Pref Criteria 2 | |
| Safety Agency Approval | IEC60950-1, UL60950-1, EN60950-1, CE Mark (48V input only) | |
| Size (L x W x H) | 2 x 1.6 x 0.4" | |
| Weight | 1.69 oz (48g) | |
| Warranty | Two Year | |

Notes:

- (1) To meet regulation & noise specifications. Operation at zero load will not damage the device
- (2) 12uH source impedance in series with + input
- (3) Max sink current 20mA (PXE20), 2.5mA (PXE30); The on/off pin is referenced to the negative input

| Model Selector | | | | | |
|-----------------------|-----------------|------------------|------------------|---------------|---------|
| Output Volt (V) | Output Curr (A) | Output Power (W) | Input Volt (VDC) | Model | Eff.(%) |
| Single Outputs | | | | | |
| 3.3 | 6.0 | 20 | 9 - 18 | PXE30-12S3P3 | 85 |
| 3.3 | 6.0 | 20 | 10 - 40 | PXE30-24WS3P3 | 87 |
| 3.3 | 6.0 | 20 | 18 - 36 | PXE30-24S3P3 | 86 |
| 3.3 | 6.0 | 20 | 18 - 75 | PXE30-48WS3P3 | 87 |
| 3.3 | 6.0 | 20 | 36 - 75 | PXE30-48S3P3 | 87 |
| 5 | 4.0 | 20 | 9 - 36 | PXE20-24WS05 | 79 |
| 5 | 4.0 | 20 | 18 - 75 | PXE20-48WS05 | 80 |
| 5 | 6.0 | 30 | 9 - 18 | PXE30-12S05 | 87 |
| 5 | 6.0 | 30 | 10 - 40 | PXE30-24WS05 | 87 |
| 5 | 6.0 | 30 | 18 - 36 | PXE30-24S05 | 88 |
| 5 | 6.0 | 30 | 18 - 75 | PXE30-48WS05 | 88 |
| 5 | 6.0 | 30 | 36 - 75 | PXE30-48S05 | 89 |
| 12 | 1.67 | 20 | 9 - 36 | PXE20-24WS12 | 81 |
| 12 | 1.67 | 20 | 18 - 75 | PXE20-48WS12 | 81 |
| 12 | 2.5 | 30 | 9 - 18 | PXE30-12S12 | 88 |
| 12 | 2.5 | 30 | 10 - 40 | PXE30-24WS12 | 87 |
| 12 | 2.5 | 30 | 18 - 36 | PXE30-24S12 | 89 |
| 12 | 2.5 | 30 | 18 - 75 | PXE30-48WS12 | 87 |
| 12 | 2.5 | 30 | 36 - 75 | PXE30-48S12 | 90 |
| 15 | 1.33 | 20 | 9 - 36 | PXE20-24WS15 | 81 |
| 15 | 1.33 | 20 | 18 - 75 | PXE20-48WS15 | 81 |
| 15 | 2.0 | 30 | 9 - 18 | PXE30-12S15 | 88 |
| 15 | 2.0 | 30 | 10 - 40 | PXE30-24WS15 | 88 |
| 15 | 2.0 | 30 | 18 - 36 | PXE30-24S15 | 89 |
| 15 | 2.0 | 30 | 18 - 75 | PXE30-48WS15 | 88 |
| 15 | 2.0 | 30 | 36 - 75 | PXE30-48S15 | 90 |
| Dual Outputs | | | | | |
| ±5 | ±2.0 | 20 | 9 - 36 | PXE20-24WD05 | 79 |
| ±5 | ±2.0 | 20 | 18 - 75 | PXE20-48WD05 | 79 |
| ±12 | ±0.833 | 20 | 9 - 36 | PXE20-24WD12 | 81 |
| ±12 | ±0.833 | 20 | 18 - 75 | PXE20-48WD12 | 83 |
| ±12 | ±1.25 | 30 | 9 - 18 | PXE30-12D12 | 87 |
| ±12 | ±1.25 | 30 | 18 - 36 | PXE30-24D12 | 88 |
| ±12 | ±1.25 | 30 | 36 - 75 | PXE30-48D12 | 88 |
| ±15 | ±0.666 | 20 | 9 - 36 | PXE20-24WD15 | 82 |
| ±15 | ±0.666 | 20 | 18 - 75 | PXE20-48WD15 | 84 |
| ±15 | ±1.0 | 30 | 9 - 18 | PXE30-12D15 | 87 |
| ±15 | ±1.0 | 30 | 18 - 36 | PXE30-24D15 | 88 |
| ±15 | ±1.0 | 30 | 36 - 75 | PXE30-48D15 | 88 |

| Pinout | | |
|--------|---------------|---------------|
| PIN # | Single Output | Dual Output |
| 1 | + Input | + Input |
| 2 | - Input | - Input |
| 4 | Remote on/off | Remote on/off |
| 5 | No Pin | + Output |
| 6 | + Output | Common |
| 7 | - Output | - Output |
| 8 | Trim | Trim |



Heat Sink (0.22" high)

HAPXE (includes thermal adhesive pad)
HAPXECLIP (two clips required when used)

Other Industrial Products

CC-E 1.5-25W, 5 to 48VDC input
PAQ } 50 - 700W quarter, half & full bricks
PAH }
PAF }

For Additional Information, please visit us.tdk-lambda.com/lp/products/px-series.htm

