

## 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



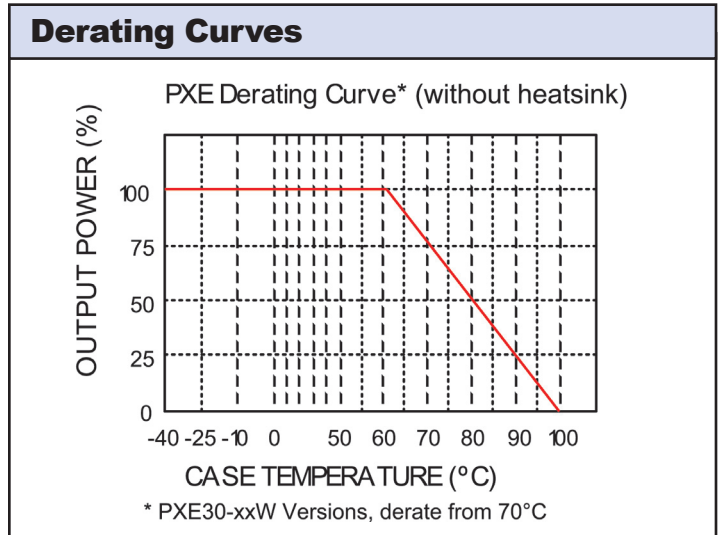
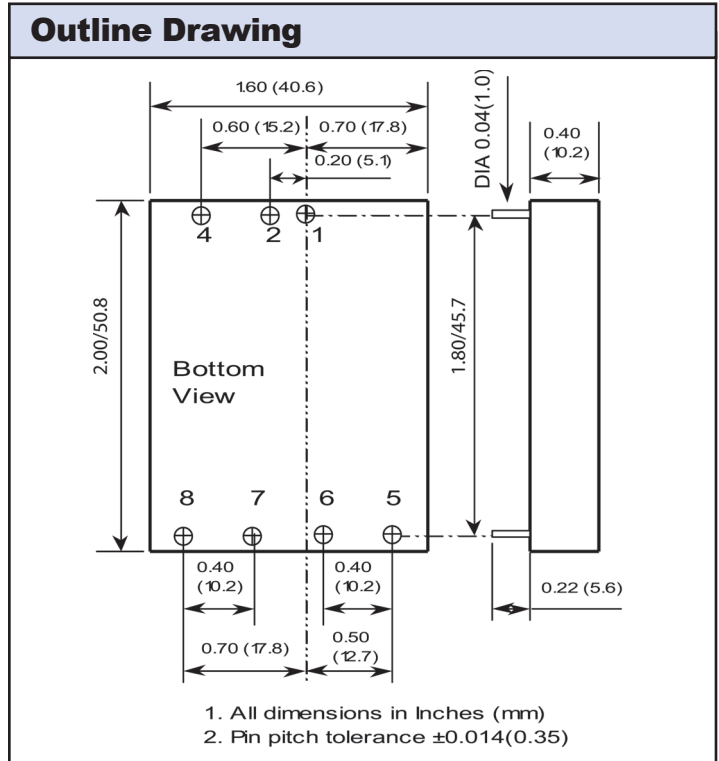
| Specifications                            |  |                        |
|---|--|------------------------|
| Model                                     | PXE20  | PXE30                  |
| Max Output Power                          | 20W  | 30W                    |
| Voltage Accuracy                          | ±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         |
| Overshoot 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 <sup>9</sup> 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                    | IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark                    |                        |
| Size (L x W x H)                          | 2 x 1.6 x 0.4"   |                        |
| Weight                                    | 1.69 oz (48g)  |                        |
| Warranty                                  | Three 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.(%) |
| <b>Single Outputs</b> |                 |                  |                  |               |         |
| 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      |
| <b>Dual Outputs</b>   |                 |                  |                  |               |         |
| ±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 | Function | 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 }

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