

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

### Features

- ◆ Industry Standard 2" x 1" Footprint
- ◆ Six Sided Shielding
- ◆ Safety Agency Certifications
- ◆ 9-36V or 18-75VDC Input
- ◆ Wide range input

### Key Market Segments & Applications



| Specifications                            |                                                                                                                 |       |             |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------|-------------|
| Model                                     | Single Output                                                                                                   |       | Dual Output |
| Max Output Power                          |                                                                                                                 | 30W   |             |
| Voltage Accuracy                          |                                                                                                                 | ±1%   |             |
| Voltage Adjustment                        | ±10%                                                                                                            |       | None        |
| Minimum Load                              |                                                                                                                 | None  |             |
| Line Regulation                           |                                                                                                                 | ±0.2% |             |
| Load Regulation                           | ±0.5%                                                                                                           |       | ±1%         |
| Cross Regulation (25% to 100%)            | -                                                                                                               |       | ±5%         |
| Ripple and Noise (peak to peak)           | <5.1V output: 100mV, 12-15V output: 150mV                                                                       |       |             |
| Start up time                             | 30ms                                                                                                            |       |             |
| Remote on/off                             | Positive Logic: ON: Open or 3-12V, OFF Short or <1.2V<br>Negative Logic: ON: Short or <1.2V, OFF: Open or 3-12V |       |             |
| Temperature Coefficient                   | <±0.02%/°C                                                                                                      |       |             |
| Operating Temperature                     | -40 to +85°C, derating necessary above 50°C                                                                     |       |             |
| Maximum Case Temperature                  | 105°C (Overtemperature Protection 115°C)                                                                        |       |             |
| Storage Temperature                       | -55 to 125°C                                                                                                    |       |             |
| Thermal Shock                             | MIL-STD-810F                                                                                                    |       |             |
| Relative Humidity (non condensing)        | 5 to 95%                                                                                                        |       |             |
| Transient Response (25% step load change) | 250us 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)   | 24V input: 50V, 48V input: 100V                                                                                 |       |             |
| Reflected input ripple (peak to peak)     | 20mA                                                                                                            |       |             |
| Isolation Voltage                         | 1600VDC minimum                                                                                                 |       |             |
| Isolation Resistance                      | 109 Ohms minimum                                                                                                |       |             |
| Isolation Capacitance (max)               | 1500pF                                                                                                          |       |             |
| Typical Switching Frequency (Fixed)       | 430kHz                                                                                                          |       |             |
| MTBF (BELLCORE TR-NWT-000332)             | 3,163,000 hours                                                                                                 |       |             |
| Vibration                                 | MIL-STD-810F                                                                                                    |       |             |
| Conducted and Radiated Emissions (1)      | See Installation Diagrams                                                                                       |       |             |
| Immunity (2)                              | EN61000-4-2, -3, -4, -5, -6 Pref Criteria A                                                                     |       |             |
| Safety Agency Certifications              | IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark                                                                         |       |             |
| Size (L x W x H)                          | 2x1x0.4"                                                                                                        |       |             |
| Weight                                    | 1.07 oz (30.5g)                                                                                                 |       |             |
| Warranty                                  | Three Year                                                                                                      |       |             |

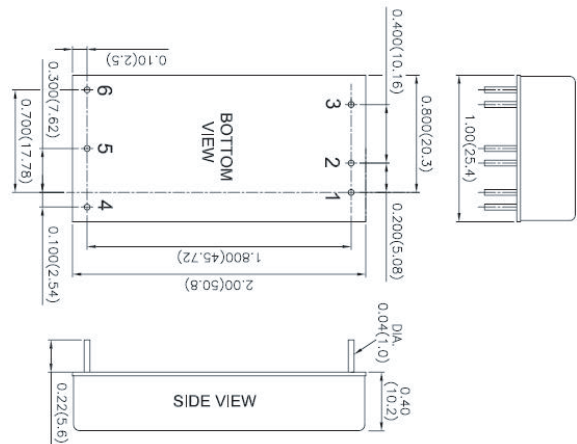
#### Notes:

- (1) With external ceramic capacitor (24V: 4.7uF, 48V: 2.2uF) connected across input pins
- (2) For EN61000-4-4 & -5 compliance fit external electrolytic capacitor (24V: 330uF, 48V: 220uF) connected across input pins

## Model Selector

| Output Volt (V) | Output Curr (A) | Output Power (W) | Input Volt (V) | Model         | Eff.(%) |
|-----------------|-----------------|------------------|----------------|---------------|---------|
| Single Outputs  |                 |                  |                |               |         |
| 3.3V            | 7.5A            | 24.75W           | 9 - 36VDC      | PXD30-24WS3P3 | 86%     |
| 3.3V            | 7.5A            | 24.75W           | 18 - 75VDC     | PXD30-48WS3P3 | 86%     |
| 5V              | 6.0A            | 30W              | 9 - 36VDC      | PXD30-24WS05  | 88%     |
| 5V              | 6.0A            | 30W              | 18 - 75VDC     | PXD30-48WS05  | 88%     |
| 12V             | 2.5A            | 30W              | 9 - 36VDC      | PXD30-24WS12  | 89%     |
| 12V             | 2.5A            | 30W              | 18 - 75VDC     | PXD30-48WS12  | 90%     |
| 15V             | 2.0A            | 30W              | 9 - 36VDC      | PXD30-24WS15  | 89%     |
| 15V             | 2.0A            | 30W              | 18 - 75VDC     | PXD30-48WS15  | 91%     |
| Dual Outputs    |                 |                  |                |               |         |
| ±5V             | ±3.0A           | 30W              | 9 - 36VDC      | PXD30-24WD05  | 88%     |
| ±5V             | ±3.0A           | 30W              | 18 - 75VDC     | PXD30-48WD05  | 88%     |
| ±12V            | ±1.25A          | 30W              | 9 - 36VDC      | PXD30-24WD12  | 87%     |
| ±12V            | ±1.25A          | 30W              | 18 - 75VDC     | PXD30-48WD12  | 88%     |
| ±15V            | ±1.0A           | 30W              | 9 - 36VDC      | PXD30-24WD15  | 87%     |
| ±15V            | ±1.0A           | 30W              | 18 - 75VDC     | PXD30-48WD15  | 88%     |

## Outline Drawing



## Pinout

| Pin # | Function      |               |
|-------|---------------|---------------|
|       | Single Output | Dual Output   |
| 1     | + Input       | + Input       |
| 2     | - Input       | - Input       |
| 3     | Remote On/Off | Remote On/Off |
| 4     | + Output      | + Output      |
| 5     | - Output      | Common        |
| 6     | Trim          | - Output      |

## Remote On/Off Option

| Suffix    | Function       |
|-----------|----------------|
| No Suffix | Positive Logic |
| -N        | Negative Logic |

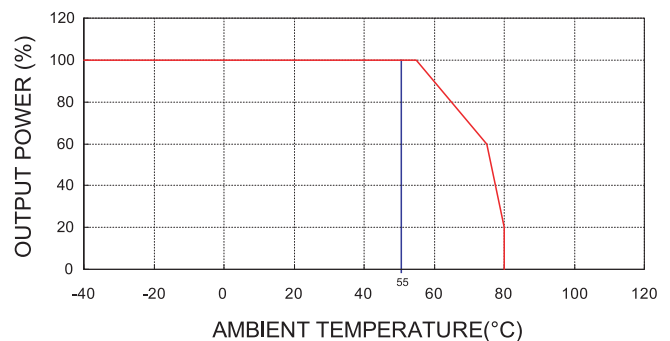
## Heat Sink (0.22" high)

|            |                                 |
|------------|---------------------------------|
| HAPXD      | (includes thermal adhesive pad) |
| HAPXBDCLIP | (two clips required when used)  |

## Other Industrial Products

|                                |                                           |
|--------------------------------|-------------------------------------------|
| PXD10, 20                      | 10-20W, 12V, 24V, 48V input 2x1" DC-DC    |
| PXE20, 30                      | 20-30W, 12V, 24V, 48V input 2x1.6" DC-DC  |
| PXF30-40                       | 30-40W, 12V, 24V, 48V input 2x2" DC-DC    |
| CC-E                           | 1.5 - 25W, 5V, 12V, 24V & 48V input DC-DC |
| Non Wide Range Input Modes (W) |                                           |
| PXD30-12Sxx                    | 30W, 9-18VDC 2x1" DC-DC                   |
| PXD30-12Dxx                    | 30W, 9-18VDC 2x1" DC-DC                   |
| PXD30-24Sxx                    | 30W, 18-36VDC 2x1" DC-DC                  |
| PXD30-24Dxx                    | 30W, 18-36VDC 2x1" DC-DC                  |
| PXD30-48Sxx                    | 30W, 36-75VDC 2x1" DC-DC                  |
| PXD30-48Dxx                    | 30W, 36-75VDC 2x1" DC-DC                  |

## Derating Curves



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<https://product.tdk.com/info/en/products/power/index.html>



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