

Single and Dual Output 10 to 20W DC-DC Converters



- ◆ Industry Standard 2" x 1" Footprint
- ◆ Six Sided Shielding
- ◆ Agency Approved
- ◆ 12V, 24V and 48V Inputs

RoHS

Key Market Segments & Applications

Telecom, Datacom, Point of Load

Features & Benefits

Feature	Benefit
◆ UL, CSA, EN, CE approvals	◆ Easier system approvals
◆ Wide range input	◆ Less parts to inventory
◆ Six sided shielding	◆ Reduced radiated noise

Specifications

ITEMS	PXD10	PXD15	PXD20
Max Output Power	10W	15W	20W
Voltage Accuracy	±2%	±1%	±1%
Voltage Adjustment (Single Output Only)	None	None	±10%
Minimum Load, each output (1)	10%	10%	Single 0%; Dual 10%
Line Regulation	±1%	±1%	±0.2%
Load Regulation (10% to 100%)	Single Output: ±1% Dual Output: ±2%	Single Output: ±1% Dual Output: ±2%	±0.5%
Cross Regulation (25% to 100%)		±5%	
Ripple and Noise	Single 50mV, Dual 75mV		Single 75mV, Dual 100mV
Start up time	20ms		10ms
Remote on/off (3)	Positive Logic: ON: Open or 3.5-12V, OFF Short or <1.2V Negative Logic: ON: Short or <1.2V, OFF: Open or 3.5-12V		
Temperature Coefficient	<±0.02%/°C		
Operating Temperature	See derating curves		
Maximum Case Temperature	100°C		
Storage Temperature	-55 to 105°C		
Thermal Shock	MIL-STD-810D		
Relative Humidity	5 to 95% (non condensing)		
Transient Response (25% step load chg.)	500us recovery	500us recovery	300us recovery
Overvoltage Protection (Zener clamp)	1.5-3.3V: 3.9V, 5V: 6.2V, 12V: 15V, 15V: 18V		
Overcurrent & Short Circuit Protection	Typically at 150%, hiccup with self recovery		
Input Surge Voltage (Max. for 100ms)	12V input: 36V, 24V input: 50V, 48V input: 100V		
Reflected input ripple (peak to peak) (2)	30mA	20mA	20mA
Isolation Voltage	1600VDC minimum		
Isolation Resistance	10 ⁹ Ohms minimum		
Isolation Capacitance (max)	300pF		1000pF
Typical Switching Frequency (Fixed)	300kHz	Single: 500kHz Dual: 300kHz	500kHz
MTBF (BELLCORE TR-NWT-000332)	1,976,000 hours	2,041,000 hours	1,791,000 hours
Vibration	10 - 55Hz, 2G, 30 minutes each X, Y, Z axis		
Conducted and Radiated Emissions	EN55022 Level A		
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)	2x1x0.4"		
Weight	0.95 oz (27g)		
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) Positive logic standard on 20W (see options table). Input current 2.5mA

* See website for detailed specifications

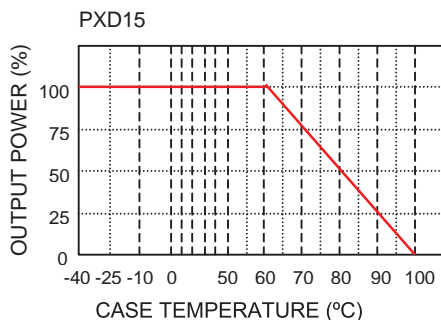
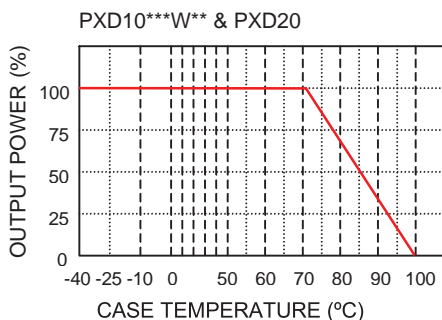
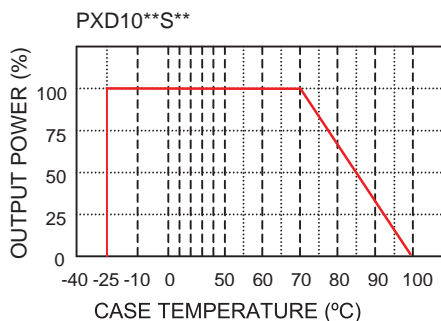
Model Selector

Output Voltage	Output Current	Output Power	Input Voltage	Model	Ripple & Noise (Peak to Peak mV)	Nominal Input Curr.	Efficiency	Max. Load Capac. (µF)
1.5V (4)	6.0A	9W	9 - 18VDC	PXD20-12S1P5	60	1.014A	78%	65000
1.5V (4)	6.0A	9W	18 - 36VDC	PXD20-24S1P5	60	0.493A	80%	65000
1.5V (4)	6.0A	9W	36 - 75VDC	PXD20-48S1P5	60	0.247A	80%	65000
1.8V (4)	6.0A	10.8W	9 - 18VDC	PXD20-12S1P8	60	1.200A	79%	65000
1.8V (4)	6.0A	10.8W	18 - 36VDC	PXD20-24S1P8	60	0.584A	81%	65000
1.8V (4)	6.0A	10.8W	36 - 75VDC	PXD20-48S1P8	60	0.288A	82%	65000
2.5V	6.0A	15W	9 - 18VDC	PXD20-12S2P5	60	1.603A	82%	33,000
2.5V	6.0A	15W	18 - 36VDC	PXD20-24S2P5	60	0.781A	84%	33,000
2.5V	6.0A	15W	36 - 75VDC	PXD20-48S2P5	60	0.391A	84%	33,000
3.3V	2.0A	6.6W	9 - 18VDC	PXD10-12S3P3	50	0.724A	80%	6800
3.3V	2.0A	6.6W	18 - 36VDC	PXD10-24S3P3	50	0.362A	80%	6800
3.3V	2.0A	6.6W	36 - 75VDC	PXD10-48S3P3	50	0.183A	79%	6800
3.3V (4)	4.0A	13.2W	9 - 18VDC	PXD15-12S3P3	50	1.467A	79%	10200
3.3V (4)	4.0A	13.2W	18 - 36VDC	PXD15-24S3P3	50	0.724A	80%	10200
3.3V (4)	4.0A	13.2W	36 - 75VDC	PXD15-48S3P3	50	0.357A	81%	10200
3.3V	5.0A	16.5W	9 - 18VDC	PXD20-12S3P3	60	1.719A	84%	13000
3.3V	5.0A	16.5W	18 - 36VDC	PXD20-24S3P3	60	0.838A	86%	13000
3.3V	5.0A	16.5W	36 - 75VDC	PXD20-48S3P3	60	0.414A	87%	13000
5V	2.0A	10W	9 - 36VDC	PXD10-24WS05	50	0.548A	80%	4700
5V	2.0A	10W	18 - 75VDC	PXD10-48WS05	50	0.274A	80%	4700
5V (4)	3.0A	15W	9 - 18VDC	PXD15-12S05	50	1.603A	82%	7050
5V (4)	3.0A	15W	18 - 36VDC	PXD15-24S05	50	0.781	84%	7050
5V (4)	3.0A	15W	36 - 75VDC	PXD15-48S05	50	0.396A	83%	7050
5V	4.0A	20W	9 - 18VDC	PXD20-12S05	75	2.008A	87%	6800
5V	4.0A	20W	18 - 36VDC	PXD20-24S05	75	0.980A	89%	6800
5V	4.0A	20W	36 - 75VDC	PXD20-48S05	75	0.490A	89%	6800
12V	0.83A	10W	9 - 36VDC	PXD10-24WS12	50	0.532A	82%	690
12V	0.83A	10W	18 - 75VDC	PXD10-48WS12	50	0.259A	84%	690
12V (4)	1.25A	15W	9 - 18VDC	PXD15-12S12	50	1.524A	86%	1035
12V (4)	1.25A	15W	18 - 36VDC	PXD15-24S12	50	0.772A	85%	1035
12V (4)	1.25A	15W	36 - 75VDC	PXD15-48S12	50	0.377A	87%	1035
12V	1.67A	20W	9 - 18VDC	PXD20-12S12	75	2.062A	85%	2200
12V	1.67A	20W	18 - 36VDC	PXD20-24S12	75	1.006A	87%	2200
12V	1.67A	20W	36 - 75VDC	PXD20-48S12	75	0.497A	88%	2200
15V	0.67A	10W	9 - 36VDC	PXD10-24WS15	50	0.551A	80%	470
15V	0.67A	10W	18 - 75VDC	PXD10-48WS15	50	0.262A	84%	470
15V (4)	1.0A	15W	9 - 18VDC	PXD15-12S15	50	1.524A	86%	705
15V (4)	1.0A	15W	18 - 36VDC	PXD15-24S15	50	0.772A	85%	705
15V (4)	1.0A	15W	36 - 75VDC	PXD15-48S15	50	0.381A	86%	705
15V	1.33A	20W	9 - 18VDC	PXD20-12S15	75	2.052A	85%	755
15V	1.33A	20W	18 - 36VDC	PXD20-24S15	75	1.002A	87%	755
15V	1.33A	20W	36 - 75VDC	PXD20-48S15	75	0.500A	87%	755
Dual Outputs								
±5 (4)	±1.0A	10W	9 - 36VDC	PXD10-24WD05	75	0.548A	80%	±680
±5 (4)	±1.0A	10W	18 - 75VDC	PXD10-48WD05	75	0.271A	81%	±680
±5	±1.5A	15W	9 - 18VDC	PXD15-12D05	75	1.582A	83%	±1020
±5	±1.5A	15W	18 - 36VDC	PXD15-24D05	75	0.781A	84%	±1020
±5	±1.5A	15W	36 - 75VDC	PXD15-48D05	75	0.386A	85%	±1020
±12	±0.416A	10W	9 - 36VDC	PXD10-24WD12	75	0.574A	80%	±330
±12	±0.416A	10W	18 - 75VDC	PXD10-48WD12	75	0.281A	78%	±330
±12 (4)	±0.625A	15W	9 - 18VDC	PXD15-12D12	75	1.524A	86%	±495
±12 (4)	±0.625A	15W	18 - 36VDC	PXD15-24D12	75	0.762A	86%	±495
±12 (4)	±0.625A	15W	36 - 75VDC	PXD15-48D12	75	0.372A	88%	±495
±12	±0.833A	20W	9 - 18VDC	PXD20-12D12	100	2.032A	86%	±680
±12	±0.833A	20W	18 - 36VDC	PXD20-24D12	100	1.004A	87%	±680
±12	±0.833A	20W	36 - 75VDC	PXD20-48D12	100	0.502A	88%	±680
±15	±0.333A	10W	9 - 36VDC	PXD10-24WD15	75	0.548A	80%	±110
±15	±0.333A	10W	18 - 75VDC	PXD10-48WD15	75	0.270A	81%	±110
±15 (4)	±0.5A	15W	9 - 18VDC	PXD15-12D15	75	1.563A	84%	±165
±15 (4)	±0.5A	15W	18 - 36VDC	PXD15-24D15	75	0.762A	86%	±165
±15 (4)	±0.5A	15W	36 - 75VDC	PXD15-48D15	75	0.377A	87%	±165
±15	±0.667A	20W	9 - 18VDC	PXD20-12D15	100	2.034A	86%	±450
±15	±0.667A	20W	18 - 36VDC	PXD20-24D15	100	1.005A	87%	±450
±15	±0.667A	20W	36 - 75VDC	PXD20-48D15	100	0.502A	87%	±450

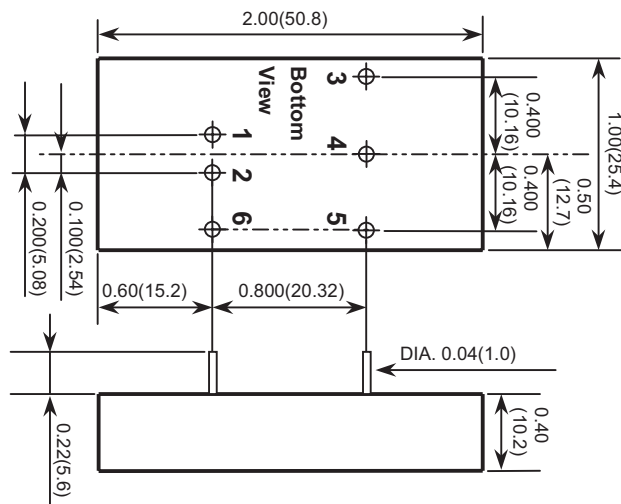
Note:

(4) Not normally stocked in North America

Pinout Graphs



Outline Drawing



Remote On/Off Option

Suffix	Function
-P*	Positive Logic (* Included in PXD20 models)
-N	Negative Logic

Example: PXD1548S12-N

Heat Sink (0.22" high)

7G0020A (includes thermal adhesive pad)

Other Lambda Industrial Products

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

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

Pinout

PIN#	PXD10/PXD15		PXD20	
	Single	Dual	Single	Dual
1			+Vin	
2			-Vin	
3			+Vout	
4	No Pin	Com	Trim	Com
5			-Vout	
6	Remote On/Off*		Remote On/Off	

* optional, see table below. If not requested, Pin is not fitted.