



FEATURES

- ◆ Unregulated single output
- ◆ 1kVDC Isolation
- ◆ Operating Temperature: -40°C ~ + 85°C
- ◆ High efficiency up to 80%
- ◆ DIP8 case
- ◆ Internal SMD construction
- ◆ Power density up to 0.85W/cm³
- ◆ No Extern. Components Required
- ◆ 3.3V,5V,7.2V,9V,12V,15V,18V,24V output
- ◆ No heat sink required
- ◆ Custom Solutions Available
- ◆ UL 94V-0 package material
- ◆ No external components required
- ◆ Industry standard pin out
- ◆ Low ripple and noise
- ◆ MTTF up to 3.4 million hours

MODEL SELECTION

B^① 05^② 05^③ X^④ D^⑤ -1W5(300)^⑥

- ① Product Series
- ② Input Voltage
- ③ Output Voltage
- ④ Fixed Input Range
- ⑤ DIP8 Package style
- ⑥ Rated Power(Output current)

APPLICATIONS

The B-XD-1W5 series is a family of cost effective 1.5W single output DC/DC converters. These converters are in an ultra miniature DIP8 case. Devices are encapsulated. High performance features: 1000VDC input/output isolation, high efficiency operation, output voltage accuracy of ±3% maximum, input range of ±10% tolerance and low output ripple and noise.



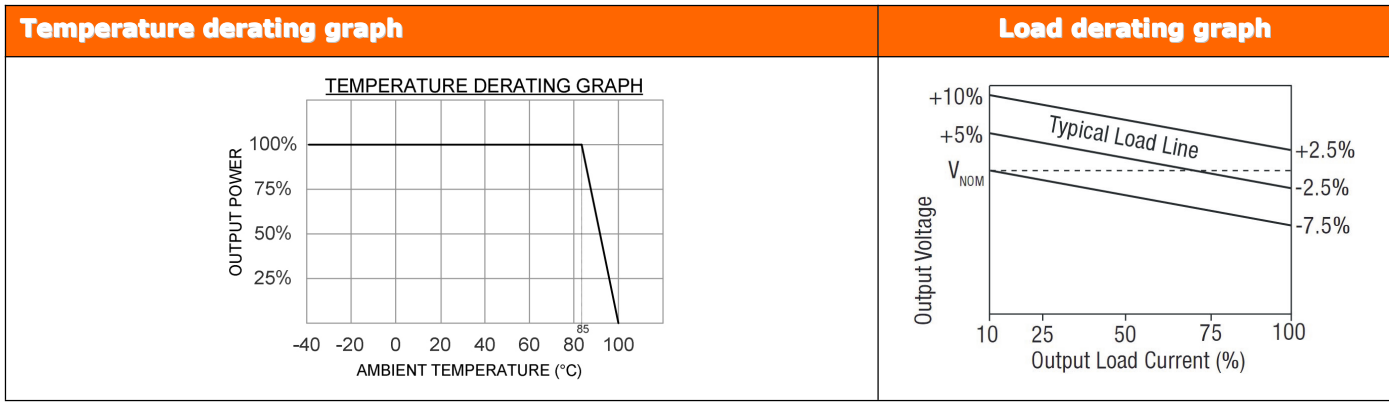
SELECTION GUIDE

Order code	Input Voltage (V)	Output Voltage (V)	Input Current No Load (mA)	Input Current 100% Load (mA)	Output Current Full load (mA)	Efficiency (%)	Capacitor Load (uF)
B0503XD-1W5	05	3.3	30	361	400	73	220
B0505XD-1W5	05	05	30	400	300	75	220
B0507XD-1W5	05	7.2	30	400	208	75	220
B0509XD-1W5	05	09	30	400	167	75	220
B0512XD-1W5	05	12	30	384	125	78	220
B0515XD-1W5	05	15	30	384	100	78	220
B0518XD-1W5	05	18	30	384	83	78	220
B0524XD-1W5	05	24	30	379	62.5	79	220
B1203XD-1W5	12	3.3	15	148	400	74	220
B1205XD-1W5	12	05	15	168	300	74	220
B1207XD-1W5	12	7.2	15	166	208	75	220
B1209XD-1W5	12	09	15	166	167	75	220
B1212XD-1W5	12	12	15	166	125	75	220
B1215XD-1W5	12	15	15	162	100	77	220
B1218XD-1W5	12	18	15	162	83	77	220
B1224XD-1W5	12	24	15	162	62.5	75	220
B2403XD-1W5	24	3.3	10	73	400	75	220
B2405XD-1W5	24	05	10	83	300	75	220
B2407XD-1W5	24	7.2	10	83	208	75	220
B2409XD-1W5	24	09	10	83	167	75	220
B2412XD-1W5	24	12	10	82	125	76	220
B2415XD-1W5	24	15	10	82	100	76	220
B2418XD-1W5	24	18	10	82	83	76	220
B2424XD-1W5	24	24	10	79	62.5	79	220

Note: All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

Specifications

Input Voltage Range	±10%
Input Filter	Capacitor Type
Output Voltage Accuracy	±3%
Line Voltage Regulation	± 1.2%/1% V _{Input Change}
Load Voltage Regulation	20%-100% ± 10% (3.3Vout Models: ±20%)
Ripple and Noise	(20MHz bandwidth) 100mVp-p max.
Temperature Coefficient	± 0.02%/°C
Efficiency at Full Load	See table
I/O Isolation Voltage (3 sec.)	1000 VDC
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 MOhm
Short Circuit Protection	Short term(1 seconds)
Switching Frequency	80 kHz (Variable)
Humidity	95% rel H
Reliability Calculated MTBF	(MIL-HDBK-217F) > 1.121 Mhrs
Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Weight	~ 1.8g, typ.
Operating Temperature	-40 to +85°C (ambient)
Maximum Case Temperature	100° C
Storage Temperature	-40°C to +125°C
Cooling	Free Air Convection
RoHS Conform	Soldering 260°C, max. (1.5mm from case 10s.)



OUTLINE DIMENSIONS & FOOTPRINT DETAILS

MECHANICAL DIMENSIONS

8 PIN DIP Package

DIP 8 – PLASTIC CASE

All dimensions are typical in millimeters (inches).
 - Pin diameter: 1.0 +/-0.05 (0.04 +/-0.002)
 - Pin pitch tolerance: +/-0.35 (+/-0.014)
 - Case tolerance +/-0.5 (+/-0.02)
 Specification may change without notice.

All dimensions in inches ±0.01(mm±0.25mm). All pins on a 0.1(2.54) pitch and within ±0.01(0.25) of true position.

FOOTPRINT DETAILS

8 PIN DIP

Pin	Function
1	-Vin
4	+Vin
5	+Vout
7	-Vout
Others	NC

NC: no connect

Specifications can be changed any time without notice.
No parallel connection or plug and play.

Note:

- The load shouldn't be less than 10%, otherwise ripple will increase dramatically.
- Operation under 10% load will not damage the converter; However, they may not meet all specification listed.
- All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- In this data sheet, all the test methods of indications are based on corporate standards.

